

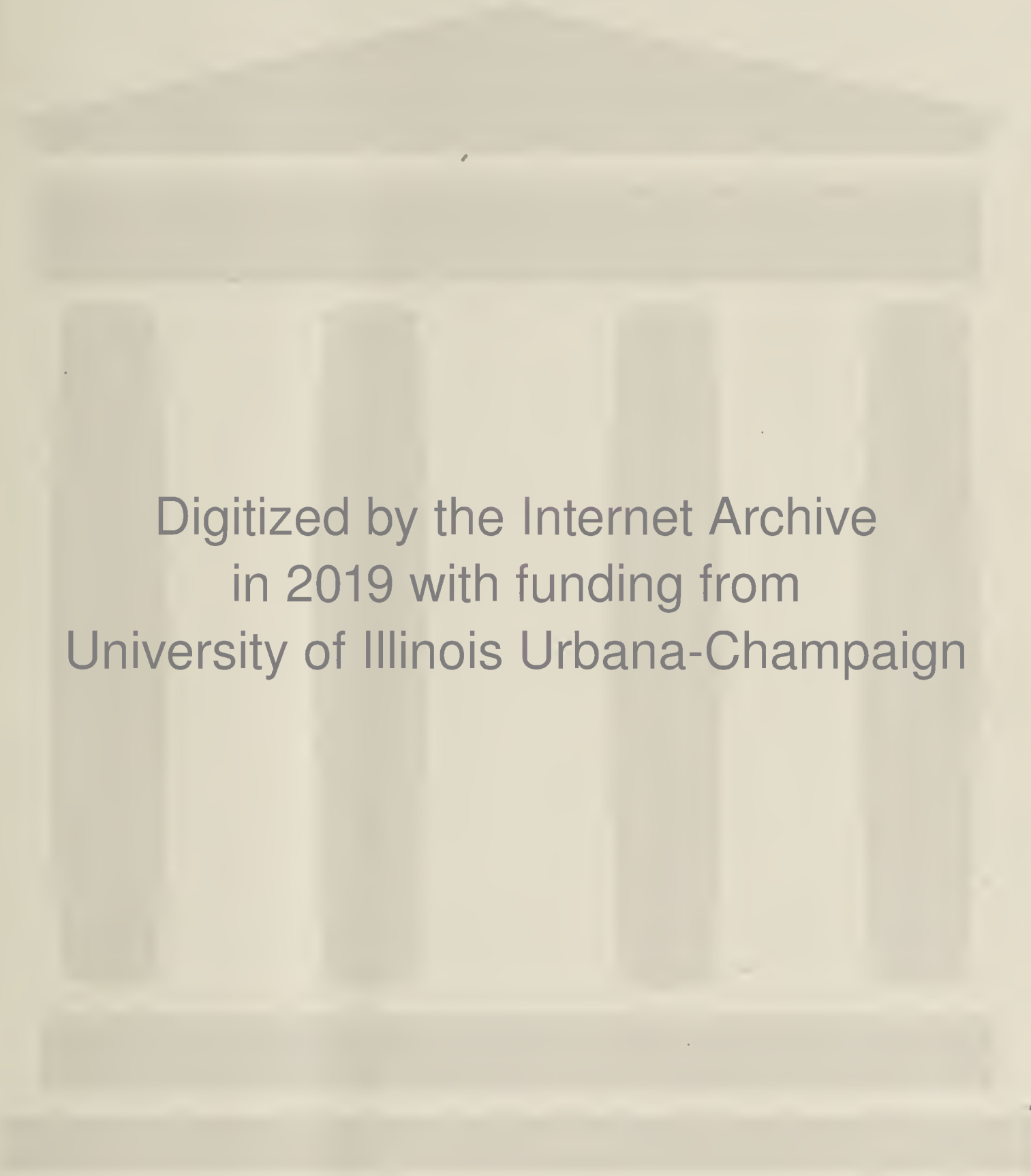
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BRICK and CLAY RECORD

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The EDITOR'S CORNER

Advertising to Spell Unparalleled Prosperity and Unprecedented Progress for Clay Products Industry in 1920

CLAY PRODUCTS MANUFACTURERS will spend at least \$600,000 for advertising and publicity during the coming year, according to a conservative estimate. The total will undoubtedly run higher, especially if the money to be spent for strictly associational activities were added to this amount.

Never before in the history of this industry has such a vast expenditure ever been contemplated or planned. The investment of this money in public good will for clay products will make a western mining town in its palmiest days look like Sleepy Hollow. But, this is not all of the story! Many of the advertising campaigns are being planned for a three-year period, and some for two. Needless to say, when the success of these campaigns has been established, larger appropriations will be made for succeeding years so that it may be possible the industry will be spending a million dollars



a year by 1921 for promotion and publicity. But no one who remembers the inactivity and inertia of previous years, and the vast campaigns which the lumber and other building material manufacturers have been conducting, will say that this is even enough money to spend for so important a purpose.

As a matter of fact, the clay products manufacturing industry is only beginning to wake up to the need of the hour, so far as it is concerned.

Never has this country faced a year like 1920. There are many clouds on the horizon. Labor is the largest and blackest of these.

Wages are extremely high, but so is the cost of living. The situation, however, would not



be so acute, if it were not for the fact that the American public has developed a mania for luxuries so that no matter how high wages go, the element of dissatisfaction will remain until the buying public gets back on the basis of healthful and wholesome thrift and economy. The worst feature

of the labor situation is the tendency of a certain group of men to place themselves above the law of the land. This is pure lawlessness, and is one of the most serious situations with which we have to deal. America must insist upon the strictest observance of law and order or we shall soon plunge into the chaos and crime of Russia.

Many worthy attempts are being made to solve the labor problem. The most prominent of these are the deliberations of the "Committee of Seventeen" which has been sitting in Washington, and which has already made a tentative report. Conciliation seems to be the keynote of this committee's recommendations. We sincerely trust that both sides of the controversy will accept the suggestions of this body. However, we have grave doubts of this being the case. There seems to be a tendency both on the part of labor and capital to fight it out to a finish. Production which is so direly needed at the present time, will be utterly impossible un-



less an adequate solution of the labor problem is found during 1920.

Aside from the ever-present labor problem, and its consequent menace to production, other features of industry are exceedingly encouraging. Money never was so plentiful; loans are large and numerous; many new enterprises are being launched in all lines of business; collections are good, while demand seems to be at its highest point.

Speaking specifically of the clay products industry, there certainly never was a more rosy outlook than that upon which we gaze at the advent of the new year. In the building brick business, both face and common, over-sold conditions are the rule rather than the exception. For instance, in one district recently about eighteen common brick manufacturers reported orders exceeding stocks by from fifty to two hundred per cent., and this is a typical



state of affairs thruout the common brick manufacturing industry. Common brick are almost at a premium in New York and in New England they are bringing the record sum of \$25 per thousand. This price, which is probably the peak, is not excessive when high wages and the tremendous cost of

doing business is considered. Labor troubles, halting production and increasing costs are largely responsible and then, taking into consideration an adequate deduction for overhead and depreciation, items which have been badly neglected in the past, it will be seen that the prices which are now prevailing for common building brick are not excessive. In this connection it is estimated that on December 1, the average price thruout the country was \$18.06. The price of building brick has advanced much less in proportion to other commodities, some of the last mentioned having jumped from two to seven hundred per cent. while brick has barely risen one hundred per cent. in view of 1914 prices.

The Common Brick Manufacturers Association of America, which is less than two years old, is planning on spending about \$125,000 for advertising and other forms of promotion

during 1920. This is a conservative estimate and the sum will probably exceed this amount. The association is working on a three year



basis with regard to its advertising. An agency has already been selected and plans are being pushed to an early consummation.

Face brick manufacturers are going into nineteen-twenty with heads up, proud of their product, and with a determination to deserve the best by giving their best in both service and quality.

Contrary to general belief, nineteen-nineteen, taken from all angles, was a hard year. Following the signing of the armistice, there was a trying period of business stagnation. When it was finally discovered there was such a thing as "demand," it was very late spring, with the smallest stock on hand during the last decade, because most plants had been forced to shut down until it became apparent there would be a ready market. Demand came suddenly and with an insistence which brought troubles and embarrassments to most of the plants which were beset by every conceivable manufacturing obstacle. Labor shortage and inefficiency, difficulties in obtaining a sufficient supply of the proper kind of fuel, frequent shortages of railway equipment, serious building strikes in the largest markets—these were some of the problems every manufacturer came face to face with. The climax arrived on November 1st when the coal miners struck. In thirty days the majority of plants were down again and altho the strike was nominally settled, few manufacturers expected to "hit their stride" again for from thirty to sixty days.



Nineteen-twenty looks as bright as the usual distant field. Public sentiment has clearly lost sympathy with unreasonable demands by labor. The effect of this should surely be a reaction toward efficiency, which

means more production. Temporarily at least, the industry has a better fuel supply and with hard earned experience and in somewhat bet-



ter financial condition, many plants will carry a larger reserve stock in the future. Car supply and movement are to continue to be questions warranting the watchfulness of every manager.

Demand is far greater than the supply. The housing shortage is country-wide and is still acute. On top of that, there is a shortage of all building materials, indicating that the period of building activity is to be prolonged for the next two years and possibly for as long as five years.

From an association standpoint, nineteen-twenty offers unlimited opportunities for service to members of The American Face Brick Association. A comprehensive and carefully planned promotion program is shortly to be formally launched in the leading national magazines. The association's joint complaint with two other clay products organizations before the Interstate Commerce Commission, for a fair and equitable, country-wide adjustment of freight rates, is expected to be heard early in the New Year. In better financial shape and in response to constant object lessons, more and more of the members are expected to install the association's adopted cost finding system and to properly keep it up. Statistics



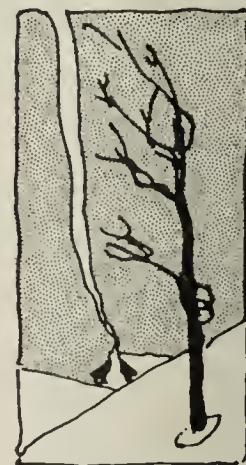
of various kinds, including prompt and accurate market data, frequently illustrated by graphic charts, will be distributed to ever widening circles of those who are entitled to it. Effort will be sustained to make the sectional meetings more snappy and instructive. Also, every face brick manu-

facturer will be made thoroly acquainted with the association's program and all possible effort will be made to impress upon him **HIS** responsibility for the welfare of the industry.

The American Face Brick Association has a big year ahead. Its officers and employes are imbued with that aggressive spirit which squarely meets responsibility and overlooks no proper opportunity to serve.

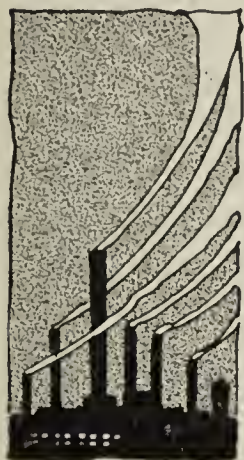
The work of the Hollow Building Tile Association is moving along nicely. The tile manufacturers expect to spend, and as a matter of fact, have already appropriated the sum of \$75,000 from June, 1919, to June, 1920, and they are working upon a two year basis with regard to their advertising. Copy is being prepared for farm journals, and national mediums such as the "Literary Digest." They have adopted the slogan, "MasTerTile." Tile manufacturers are far behind in their orders with a tremendous demand facing them during the coming year.

The National Paving Brick Manufacturers Association has been working quietly but very effectively. Several changes have been made in the personnel of the organization, but most important of all, the whole industry has been organized according to districts, and units which previously were not working together, are now one in their plans and purposes. A board of governors administers the affairs of the association, which has launched an advertising campaign of no mean proportion. Mediums reaching highway engineers, road commissioners and the general public are being used. The agency handling this account is doing very good work. A slogan has been adopted labelling the brick road as that of "The Taxpayer's Value," which is very good indeed.



While sewer pipe manufacturers, thru the Clay Products Association, are not prepared to make public the amount which they will spend for advertising during the coming year, it is a matter of common knowledge that a vigorous and effective campaign is being planned. When it is remembered that there are countless villages and towns in the United States which as yet have no sanitary system for sewage disposal, and that of the number which do have

a system, only seventy-five per cent. of the houses at the most are connected therewith, it



is seen that there is a tremendous market as yet undeveloped for vitrified sanitary salt glazed sewer pipe. Only one town, located in California, is said to be one hundred per cent. sewerage. The association is planning a promotional campaign for flue lining, impressing upon the general public

that the best way to avoid a fire is to keep it in the chimney where it will do no damage. One of the most effective methods of accomplishing this end is to use fire clay flue lining.

During the war there was such an unusual call for refractories that it was almost impossible to meet the demand for any but the lower grades. And to do this, it was not only necessary to replace the miners and plant men who had entered the service but also to increase the entire personnel of most refractories manufacturing plants. This, without doubt, had its effect upon the quality of the material produced; it was impossible to get quantity production and maintain quality with such depleted forces.

Since the signing of the armistice, however, fewer by-products coke ovens have been constructed; the production of metal has diminished; contemplated construction has been discontinued. The effect of this shortening of the demand for refractories has made itself noticeable in many ways—notably in workmanship. A representative of a large foreign steel plant made the remark in an American brick plant during November, 1919, that the silica brick in the cull pile were as good as he bought for run-of-kiln in his own country.



Plant conditions in the refractories industry have been improved during 1919—in several instances construction work and machine installation begun in 1914 and then discontinued, was completed in 1919.

The Research Fellowship established by the Refractories Manufacturers Association entered its third year in May. This feature of the work of the association has grown to a point where the corps of "Fellows" has been increased and the laboratory space in the Mellon Institute extended. More than a thousand investigations of clay, both of raw and calcined, have been made, as well as tests on finished material. Many investments foredoomed to failure, have been prevented. Many improvements in finished material have been suggested and instructions given as to the manner in which this improvement could be made. These improvements have not only had to do with the addition of missing ingredients and the changing of proportions of mix, but with mechanical features, the effect of which has meant much, not only for the make of refractories, but for the user of this class of material.



Considerable progress has been made in the way of standardizing the product, not only as regards size and shape, but quality and methods of testing to determine quality. The Committee on Standardization, connected with the Refractories Manufacturers Association has, by constant investigation of conditions in the various industries where refractories are used, made a gradual reduction of the special shapes that were at one time used in general practice in these industries. The substitution of standard shapes has, in many instances, greatly reduced the cost to the consumer and at the same time, made prompt and efficient service much easier for the manufacturer.

Comparatively few new refractories plants have been started during the past year and the output has been lessened by the going back into old lines of clayworking plants which took up fire brick as an emergency measure when the Fuel Administration curtailed the fuel supply of all building brick plants. The enormous stocks accumulated by some of these newcomers in the refractories field have been sold.

TWO MILLION DOLLARS EXPENDED *to* BUILD *and* EQUIP *a* CLAY PLANT

World's Most Modern Clay Factory Is Fire Brick Plant Built in Missouri With Many Features, Entirely New, Introduced to the Industry

BREAKING AWAY from the stereotyped design of clay plant construction, and daring to invest an enormous sum in clay factory construction, the Walsh Fire Clay Products Co. brushed aside all precedence when it built its extraordinary large and modern fire clay brick plant at Vandalia, Mo. This plant is decidedly different in layout and equipment from any other clay plant and was constructed in 1917 and 1918 at a cost which far exceeded the investment made by any other clay products concern. At the time it was ready to commence operations, which was about July, 1918, the sum of over two million dollars was spent for construction and equipment.

At the time the plant was built, the war was at its height, the iron, steel and kindred industries, which consumed an enormous quantity of fire brick, were going full blast. The Walsh Fire Clay Products Co. studied the situation with thoroughness and felt that the demand for fire brick, while it may not be as brisk in peace times as during the war period, would still be sufficient so that a ready sale for a good product would always maintain. Good clays were available so that a high grade product could be made, hence the problem resolved itself into the construction of a plant so designed that production would be at a low cost.

LAST WORD IN PLANT CONSTRUCTION

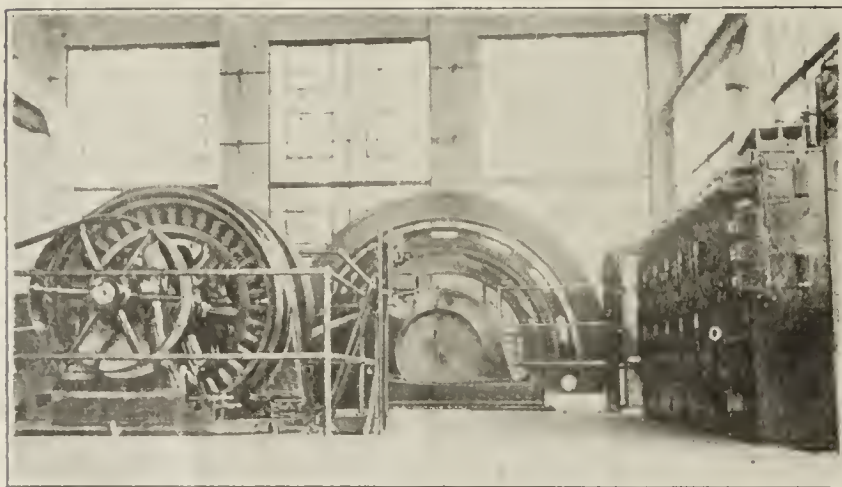
Accordingly, when Robt. A. B. Walsh and Chas. W. Parker of the Walsh Fire Clay Products Co., in conjunction with the L. E. Rodgers Engineering Co., of Chicago, engineers of this magnificent plant, planned and designed its construction, every consideration was given to the installation of labor, fuel and time saving

equipment, that would result in a product of highest grade quality.

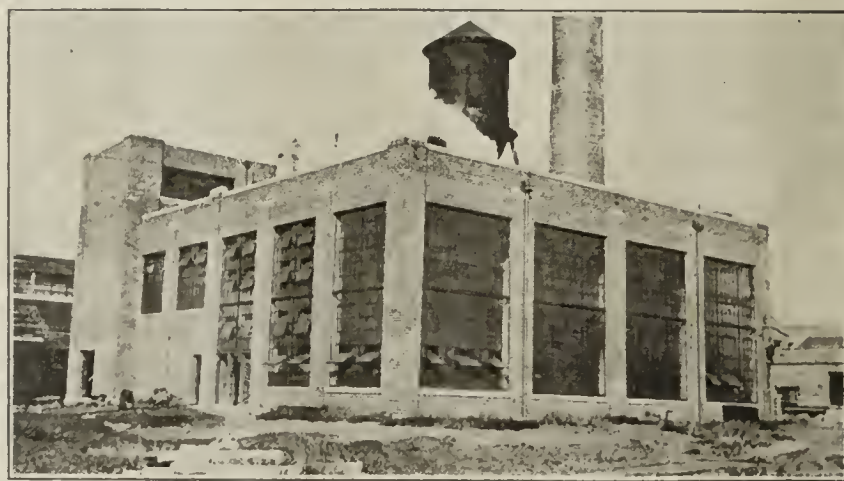
This factory, which by some has been called "the last word in clay plant construction", is also the largest of its kind in the world. At the present time it has equipment capable of turning out 170,000 nine-inch equivalent brick per day of ten hours. There are, we know, some plants which turn out a greater number of brick per day than the above, but in these cases there are several units, or, a greater length of working time than nine or ten hours is required to exceed this output. The Walsh Fire Clay Products Co.'s plant is one compact factory, having only one boiler plant and one grinding plant, altho there are several manufacturing units within itself such as are required for the different manufacturing processes.

The hugeness and enormity of this establishment impresses one beyond all comprehension as he approaches its site. In fact, one might easily consider it as some sort of large industrial factory other than a clay plant. No smoke issues forth from any of the four stacks, which is all the entire plant has including power plant, dryers and kilns.

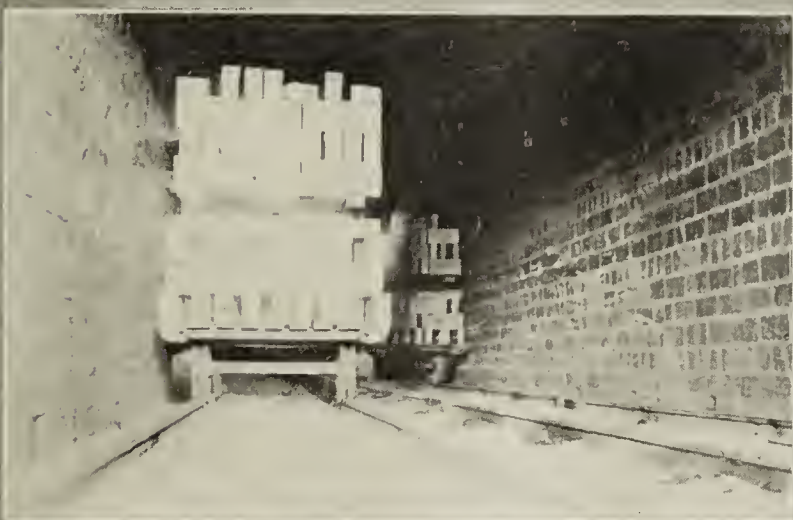
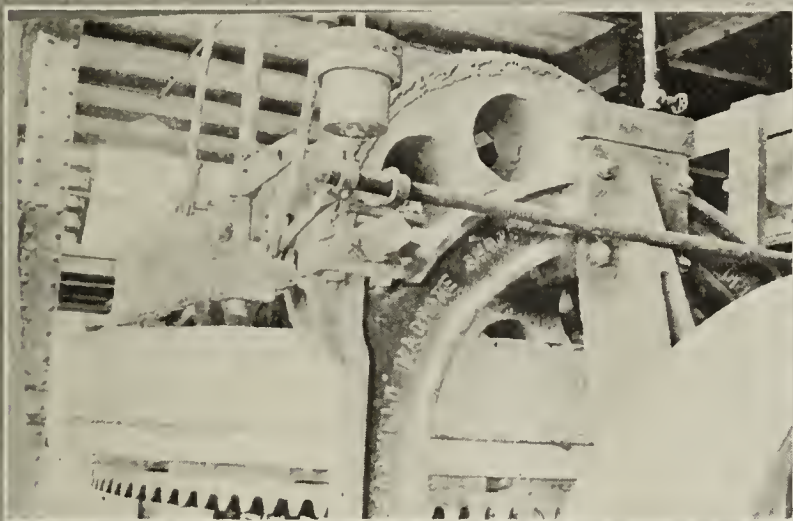
The plant, which covers a plot of 180 acres, is wholly surrounded by a wire fence protected with barb wire. A spur track of the Chicago and Alton Railroad enters the plant and splits into three branches, one of which runs alongside the boiler plant into the clay storage grounds. The other two run parallel and adjacent to each other, one along the continuous kilns, and the other along the stock sheds. All structures are built of brick with plenty of Mississippi wire glass windows to secure safety and adequate lighting facilities; concrete and steel construction is used thruout. Among other structures, the kiln building furnishes a very unusual and



View of Engine Room of Power House Wherein Is Developed the Largest Quantity of Energy of Any Plant in the Clay Products Field.



Exterior View of Power Plant Unit Which Is Without Doubt the Most Efficient and Completely Equipped Unit of Its Kind in the Clay Industry.



Starting from the Upper Left Hand View and Passing from Left to Right Downward, the Different Pictures Are Illustrations Taken at the Walsh Fire Clay Products Co.'s Plant, Which Show the Mine Tipple and Outside Clay Storage; Spring Scales and Weighing Bins In Top of Tipple; Underdriven Wet Pan; Buckets and Part of Trolley Conveyor In Soft Mud Department; Interior of Dryer Tunnel; Entrance End of Dryer; Machine Room; and Conveyor Belt with Tripper to Distribute Clay Into Bins.

impressive spectacle with its one hundred thousand or more square feet of red tile roofing.

To be granted the privilege of visiting this plant would be a pleasure to any clay products man. The writer who had this favor conferred him, will attempt to convey to the readers of this publication, the impressions of the observations he made, which, of course, can only be very general in nature owing to the vastness of the plant.

IMMENSE POWER PLANT

To begin with, the power plant which was designed by Lichter & Jens, consulting engineers, is of very modern construction and very much alike the ordinary boiler plant of the average clay factory. A conveyor carries the coal to the top floor of the plant where it is distributed into steel bins which have chutes leading from them into the hoppers of the Illinois chain grate stokers. There are three Heine 350 H. P. water tube boilers which generate steam for the entire plant. The engine room contains two Corliss engine generator sets, the larger of which develops 500 K. W., at 751 amperes and 480 volts, at full load. The smaller engine generator set, which is used at night, develops 200 K. W. The boiler plant furnishes all the power and steam necessary to operate the entire factory.

The mine tippie is located adjacent to the plant, the top of which is 110 feet above the surface of the ground. The mines which are 85 feet below the surface, are worked by a crew of about 60 miners. The room and entry method of mining is used.

Brest augers, some of them of electric type, are used to drill with and a working face of about ten feet operated. A number of holes of about three to four feet depth are drilled into the face, and these filled with dynamite, plugged and then exploded. The cars which are filled and drawn by mine mules are loaded upon a double shaft elevator and hoisted by means of a 125 H. P. steam drum hoist to the top of the tippie where they are automatically dumped into one of the two large steel hoppers, supported on auto scales and weighed. The clay is then dumped into a large hopper from where it goes thru a roll crusher and then to large bins which feed the dry pans. These dry pans, which are each individually driven by motors, belt connected, grind all the clay for the entire capacity of the plant. The grog, however, is ground by a separate dry pan. The ground material is carried by bucket elevators to a chute, dumping it upon a belt conveyor, which by means of a tripper, dumps the ground material into the proper bins. There

are a series of these bins, each containing a distinct type of clay or grog.

PLANT DIVIDED INTO FOUR UNITS

At this point the clay may fall into either one of three directions. The plant at this point is divided into four units wherein the ware is made by one of the following operations, soft mud, stiff mud, hand-made and dry-press. Two four-mold Boyd dry press machines have been installed for the manufacture of the dry press brick, a capacity of five thousand brick per hour being possible. Dry-press brick are loaded directly upon dryer cars and placed in the waste heat dryers.

In the case of the stiff mud operation, the raw material enters on eight foot Fate double shaft pug mill from a disc feeder. It then enters a second pug mill of the same design, just below the other, from where it is dropped into a Chamber brick machine. This entire unit is driven by a 150 H. P. Westinghouse induction motor. As the ribbon of clay issues from the auger machine the column is cut by a Chambers rotary cutter. The brick then passes on to the off-bearing belt from where they are placed into any or all of Chamber repress machines. Holes are arranged in the floor in such a manner so that there is one directly under the end of the off-bearing belt of each of the repress machines so that the imperfect brick will fall directly into them and on to a conveyor which returns them to the pug mill machine. This department has a capacity of eighty to one-hundred thousand and brick per day.

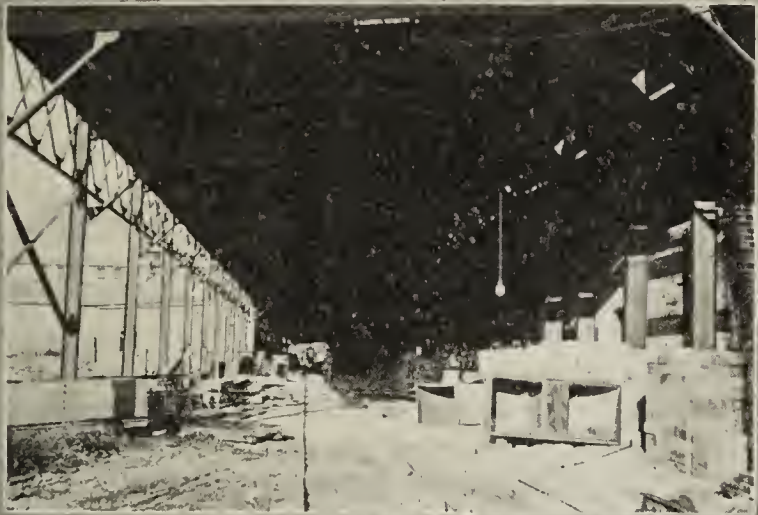
In the adjacent building, a Fate combination machine and cutter and a Raymond repress is used for the manufacture of special machine shapes. The brick machine, pug mill, repress and cutter are all operated by a Westinghouse 75 H. P. motor. The capacity of this outfit is twenty thousand nine-inch equivalent per day.

USE TROLLEY TO DISTRIBUTE CLAY

Large special shapes of almost all types conceivable are manufactured by the soft mud and hand-made process in a large building 500x100 feet wide wherein are located wet pans, molding benches, hot floor dryer, etc., for the manufacture of this type of ware. Three large Clearfield nine-foot under-driven wet pans temper the soft mud batches for the molders. The pans are unusual in construction because of the fact that they have large holes drilled thru the mullers so as to lighten them. Two men fill compartment buggies with the ground clays obtained in their proper proportions from various bins



A Snapshot Taken From One of the Buildings at the Walsh Plant. The View Over the Kiln Shed (Only About One-Third of Its Entire Length is Shown) is Not a Cemetery—Close Examination Will Show That the Company's Village is Here Located.



Starting from the Upper Left Hand View and Passing from Left to Right Downward, the Different Pictures Are Illustrations Taken at the Walsh Fire Clay Products Co.'s Plant, Which Show the Wicket of One of the Kiln Chambers With Goose Neck Inserted; Part of Continuous Kiln and Horseshoe Flue Connecting Air Flue With Kiln Chamber; Side of Kiln and Transfer Track; Interior View of Chamber of Kiln With Part of Floor Brick Removed; Coal Feeders for Gas Producers; Top of Kiln and Gas Control Valves; Depressed Loading Tracks; and Partial View on Left of Exterior of Hot Floor Building and on Right, Power House.

directly to the rear of and above the wet pans. The load is then dumped into the wet pans, water added and tempered until the proper consistency is obtained. The clay is then emptied by means of a Wynn emptier into large trip buckets which are attached to an electric hoist, elevated to the proper height and then carried by means of a Link-Belt electric trolley system down the length of the hot floor to the various molding tables which are distributed along the line. The electric traveler carries two buckets and a cage for the operator who travels with it and takes care of the charging and discharging of the buckets. The molder molds the shapes in the usual manner altho unlike some eastern plants, he does his own off-bearing. The hot floor is similar to hot floors in other brick plants and has a cement surface. The floor is divided into 40 twenty-foot sections, each under independent control.

The shapes when dried are picked up and placed directly on dryer cars and then conveyed into the continuous kilns by an electric transfer car.

DRYER OF GOOD DESIGN AND CONSTRUCTION

The dryer has twelve double track tunnels and is of a similar design to the standard dryer of the L. E. Rodgers Engineering Co. The tunnels are 115 feet long by about 7 feet wide and 5 feet high. The walls are of paving brick while the roof is of reinforced concrete and hollow tile construction. Sixteen double deck dryer trucks are accommodated on each track. There is space for the storage of two cars at the receiving end and five cars at the discharge end of each track. Single track iron doors are fitted on each tunnel.

Two fans form part of the dryer construction, one an induction fan to collect the waste heat from the kilns and bring it to the dryer, and the other to exhaust the moisture into the atmosphere. A Bristol recording thermometer is attached to the dryer and aids in the regulation and control of the dryer temperature. An auxiliary furnace equipped with an American Underfed Stoker, also a large exhaust steam radiator, stands ready to supply the heat for the dryer in case insufficient heat is obtained from the kilns.

The feature of this plant is the two 17-chamber single unit continuous kilns which are the only ones used in this country for the manufacture of fire brick. It is quite possible that a third kiln unit will soon be constructed. Each of these kilns is 292 feet over all in length, each chamber being 15 feet wide by 55 feet long, by 9 feet high, and holds about 45,000 9-inch equivalent brick. Four rectangular gas producers supply the gas for burning the brick. Illinois coal is used and a rich gas made with which to burn the product.

DESIGN OF KILN

The kiln is of the type similar to that which was developed by the Alton (Ill.) Brick Co. in connection with the L. E. Rodgers Engineering Co. A bag wall or flash wall is built on the side of the chamber from which the gas enters and is about thirty inches high. The bottom is of open floor construction, the half nearest the flash wall having alternately open and blind flues while the other half is of open flues. A large watersmoking flue of about 3 feet wide by 7 feet deep runs thruout the length of the chamber on the half farthest from the flash wall. The distributing flues are about 9 inches by 15 inches. When the watersmoking flue is shut off the gases pass thru flues in the wall and into the next chamber. There are thirty-four flues connecting one chamber with the next one adjacent. There are seventeen valves controlled

from the kiln roof which regulate the flow of the gases into the thirty-four chambers. Running alongside the length of the kiln and underneath the transfer track are two large flues, one beneath the other, one of which carries away the watersmoking gases and moisture while the other conveys the hot waste gases from the cooling chambers of the kiln to the waste heat dryer.

Between the two kilns are located the producers and also the burner's office room where the pyrometer indicators and recorders are installed. Thermo-couples are inserted from the top and at the center of each chamber. Wilson-Maulen Co. tapalogues are used to record the temperature.

The entire kiln is built with fire brick and of very good permanent construction. The first kiln has been in operation for over a year. A large steel building covered with cement roofing tile serves as an excellent protection for these kilns.

The company has constructed fifty frame houses and one hundred stucco homes with red tile roofing in its own little city adjacent to the plant. These single family homes are rented out to their employes at a reasonable sum.

Besides the above buildings there is a carpenter and pattern shop and storage building separate from the rest, measuring 100 by 40 feet. There is also a machine shop which measures 37 by 75 feet, which lies between the machine room and the waste heat dryer. In addition, there is a large blacksmith shop 40 by 100 feet, superintendent's office and store, pump houses, magazine and barns.

The erection of this plant was made under the direction of Mr. Jno. H. Fisse, sales engineer of the Walsh Fire Clay Products Co.. The operation is now under the supervision of William H. Schewe, general superintendent in charge.

* * *

Operators Admit Need of Summer Mining

Reports indicate that coal operators are more concerned about what will happen after April 1, when contracts expire, than they are about what President Wilson's commission may or may not do in the way of fixing a miner's scale. Altho practically all operators have taken advantage of the contract provision which permits them to increase prices, each fears a price cutting campaign in the spring. This is because, as stated by some:

"It is cheaper to sell coal at cost, or even a little below, and keep the mines in operation than to shut down. Many operators realize this and will make desperate efforts to get contracts renewed or to get the other fellow's business by price shaving. This is costly."

The only hope of stabilization, operators say, is amendment of the Sherman act, which will permit the operators to fix seasonable sliding scales by nation wide agreement, and to arrange with the railroad for sliding freight rates.

Concerning the president's commission, this was the consensus of operative opinion: That the commission will get nowhere. Neither the operators nor miners will like its make up. They can manage without it. With the proclamation of peace, and that cannot be delayed much longer, the powers under which the commission operates will cease to exist as the Lever act will be dead. The operators and miners, who will meet in Cleveland, will probably reach an agreement and prices will be taken care of by economic laws. That will end the whole matter so far as the commission is concerned.

N. J. POTTER URGES PREPAREDNESS *for* FUTURE COMPETITION

With Most Plants Tacking Up Sign "Sold Out for 1920," President of the New Jersey Clay-Workers' Association Points Out Need for Serious Consideration of European Activities, at Eminently Successful Gathering Held at Rutgers College, New Brunswick, on December 18

THE ANNUAL MEETING of the New Jersey Clay Worker's Association and Eastern Section of the American Ceramic Society has come to be one of the big events of the year in ceramic circles in this state, and the gathering at Rutgers College, New Brunswick, on December 18, proved to be no exception. Rather, it more than paralleled previous occasions of this nature in years past in the matter of enthusiasm, good fellowship and earnest discussion of pertinent topics. Those who were present were there for a purpose and it was only thru want of more time that talks, necessarily, had to be curtailed, for there was much to be done and real accomplishments were the order of the day.

The morning session was called to order promptly at 10:30 with President Charles Howell Cook in the chair. He faced an assemblage of more than 60 in the Fine Arts Room at the Queen's Building on the college ground, and which grew to around 89 members and guests as the day wore on. Mr. Cook greeted those gathered together with a few appropriate remarks, and then called upon Secretary George H. Brown for a reading of the minutes of the last general meeting, held at Trenton, June 24, and reported fully in *Brick and Clay Record*, of July 15. This was followed by a reading of the treasurer's report for the year.

At an Executive Committee meeting on December 12, an increase of dues from one dollar to two dollars a year

was approved, and in order that this action might have unified approval, it was put to a vote at this gathering and approved unanimously. The meeting was then thrown open for the discussion of other business.

The first matter brought up was that of a Publication Committee to arrange for the printing, in bound form, of the various papers presented at the different meetings since 1914, and from which time no provision has been made for this work. The formation of this committee was proposed by Charles A. Bloomfield, who set forth in a terse, able manner the value to members and ceramic men in having the best of these papers preserved in permanent form for perusal and reference. He made a motion that the chair appoint a committee consisting of Professor Brown, LeRoy W. Allison and others as might be selected to look over the transactions dating from 1914, with power to arrange for the publication of those deemed of greatest value.

In this, he was seconded warmly by Mr. Cook, who said: "The technical papers should be published by all means, and arrangements made accordingly; the matter should be financed by contributions from firms and members of the association."

This led to a little further discussion, and E. C. Stover, Trenton Potteries Co., Trenton, recommended that care should be exercised in the publication and distribution of



Charles H. Cook (on the left), Who Has Given the New Jersey Clayworkers' Association and Eastern Section of the American Ceramic Society a Good Leadership and Who Steps Out of the President's Chair in Favor of Abel Hansen (on the right), Well Qualified for the Place.



the proposed volume, as a deficit to the association might ensue. He brought out that if these books were distributed gratis, applications would likely ensue from all parts of the country, and the expense would be prohibitive; at the same time, he expressed the belief that the book should be given free to worthy young men and others not in position to defray the expense of purchase. With these views, an amendment was made to Mr. Bloomfield's motion, as follows, and passed unanimously:

"That the publication of these papers shall be financed by contributions from members and ceramic manufacturers; that the volume shall be distributed at a fixed price to be announced later; and that the Committee on Publication be empowered to distribute such of these volumes gratis as might be deemed advisable in its discretion."

RUTGERS ENDOWMENT FUND

Before proceeding with other business, Professor Brown took occasion to bring up the matter of a campaign now under way for an endowment fund of \$1,000,000 for Rutgers College, asking permission to have Mr. Blakely, a member of the board of trustees of the college, say a few words to those assembled on this subject.

Mr. Blakely made a number of pertinent references regarding the handicaps under which colleges are now laboring owing to the high cost of living. He pointed out that investigations showed that the cost of upkeep, maintenance and operation of educational institutions of this character is approximately one-third more than the cost of tuition; at Rutgers, for instance, it is found that the cost is about \$500 per student, while the tuition is \$150. Other colleges run higher, to \$1,000 per student and above. The college income depends upon its investments from the endowments given it, and to meet the higher costs, it is not right, he said, to make the price of tuition prohibitive to the young men.

To show the vast good that colleges are doing, the speaker made reference to Dr. George H. Cook, with whom he engaged for a few years after leaving college. Dr. Cook, about 35 years ago published a book on the clay deposits of New Jersey, which proved a very valuable contribution to literature on this subject; he was instrumental, also, in bringing out a topographical map of the state, making New Jersey the first state in the union to publish a reference work of this nature. All in all, he accomplished much for the clay-working, ceramic and other industries, and his work has lived after him.

In conclusion, Mr. Blakely made a strong appeal to those assembled to support the cause in an ardent and energetic way, saying that New Jersey should take pride in this state institution, and the work it is doing. More than 66 per cent. of the students at the present time are boys from the state, and nearly 60 per cent. of the graduates are in New Jersey today identified with its industries and professions. Later in the day, the following committee was appointed to work in connection with this campaign among the clay and ceramic interests in the particular territory:

Trenton District: O. C. Bowman, second, J. L. Mott Co., Trenton, chairman; John Maddock, Jr., of John Maddock & Sons, Trenton; D. H. Applegate, Jr., Philadelphia Textile Machinery Co., Philadelphia, and H. A. Plusch. Middlesex District: D. R. Edgar, Lake County Clay Co., Metuchen, chairman; Howard Bloomfield, D. J. Fisher, Sayre & Fisher Co., Sayreville; and H. W. Moore, Atlantic Terra Cotta Co., Perth Amboy.

OTHER BUSINESS

In connection with a discussion for an increased membership for the organization, it was voted to increase the

present membership committee from 8 to 15 members, in order that more concentrated and beneficial work in the different districts may result.

A report was submitted by the Ceramic Building Committee, which has been engaging actively for a new school building at Rutgers College, as set forth in recent issues of *Brick and Clay Record*. Charles A. Bloomfield gave a digest of the call made on Governor Runyon for this purpose on December 17, by members of the committee and important men of the industry, and which is reported on another page of this issue.

Directly allied to this matter, President Cook, as head of the recently appointed committee, to develop ways and means for the ceramic museum for the state, took occasion to remark that this proposed exhibit of ceramic wares to be located at Trenton, as planned, would accomplish considerable good in this direction, working to influence the members of the Legislature in seeing the urgent necessity for the new building, and which, to a large extent, will be a research station for the industry in New Jersey. In pointing out the possibilities of this museum, Mr. Cook said:

"What has been done in ceramic circles during the past two years is a record of which New Jersey may well be proud—she did her bit towards winning the war. Some of you little dream how necessary some of the clay products of the state were during this time, and when you do hear it, as you must, you will be astounded. To get our proposed building we must work, one and all; put your shoulder to the wheel and help—show the stuff you are made of, for it is for the good of the industry."

Mr. Bloomfield, urging the cause, made a motion: "That the New Jersey Clay Workers' Association petition the Legislature of the state for an appropriation of \$150,000 for the erection of a ceramic research station in the state." This was seconded by Charles T. H. Phillips, Sneyd Enameled Brick Co., Trenton, and passed without a dissenting voice.

Mr. Bloomfield is the father of the present ceramic school at Rutgers College, and the matter of a suitable building is one that is close to his heart.

"We must have a building commensurate with the importance of the industry in this state," he said, "a research station that will allow us to carry on investigations in the interests of manufacturers in the right way. New Jersey is rich in its natural clay deposits, and the industry is really in its infancy. No other line, possibly, has made such strides as this during the past few years, and in asking an appropriation for a new building, we are asking only for what is due us. We need the aid of everyone in the industry in this matter, and it is up to you to lend every possible assistance. With work of the right kind we will get a building of the right kind—and the state, as well as the industry, will derive returns that will bring a many fold profit."

PREPARING FOR FUTURE COMPETITION

The first paper on the program covered the subject of "Preparing for Future Competition," by President Cook. While President Cook gave his audience an interesting and practical insight of this important topic, Abel Hansen, vice-president, took the chair. In opening, the speaker said:

"I believe in preparedness, and as regards future competition it is needed vitally in our business. We represent one of the greatest industries in the world. We have a right to ask for the things we do—and we have a right to expect them. The eyes of this Government must be brought to focus on the clay and ceramic lines of activity. Our industry in England is considered so highly that it

is under the protection of the Government there; in Germany, it is a part of the Government; while in France there is a national organization to cooperate with those in the ceramic lines at every step. What do we have in this country? Neglecting the thought of direct cooperation, we do not even receive proper protection.

"We have a tariff measure that makes us walk the floor at night—we have to fight our own case without support, while other countries are going ahead in the right way. We must prepare for the future—and this is not an idle dream. Business now is at a top speed; orders are coming in so fast that they are being turned down, the sign in many plants reads 'Sold Out for 1920.' We have never before experienced such conditions, and probably within our life time they will never be repeated. But, I repeat, we are in danger—and great danger. Foreign nations are viewing our prosperity with hungry eyes; they want some of that trade, and if we don't watch carefully, they will get it.

"Just consider a few things—Germany as regards her manufacturing institutions remains untouched; she is intact; while we were winning the war, she was building new factories. Her people are now working 8 hours a day—and really working, mind you; they put in an additional 3 hours a day, in lieu of taxes, so they are busy 11 hours a day; Germany is paying her men in merchandise, not in money—the money is being kept in the country at every turn, for trade with Holland is now being conducted on this phase of barter and exchange. Germany will take care of herself, of that there is no question. Now as to England, enough to say that the exports from this country for the month of November were greater than any previous month in her history. Be assured, also, that the great money-saving, money-making nation of France will soon come into her own.

"But, these countries are not our only dangers. Think of China and Japan—what of the Orient? I have just learned that China now has a ceramic school for the first time in history; the head of the institution is a Japanese, who was educated in this country, returned to his native land and thence to China. Doesn't this make you think? If China ever wakens up fully to her great strength of industrial possibility she can shake the world. Here's a little point of knowledge that may interest you:

"The great porcelain center of China is Kingtechen. At this place there are over 100,000 potters and decorators, and about 250,000 others dependent upon them. The wages of this skilled help, and you know they are 'some' decorators, are 15 cents a day of 13 hours; women from 6 to 7 cents a day. They live on about 4 cents per day. The different plants at this point have a capacity of about \$5,000,000 worth of Teas (cups) at 45 cents per dozen, with addition of large amounts of other materials. (Incidentally, we are now getting \$1.20 a dozen for cups and cannot produce enough to supply the demand). The one thing needed in China is business leadership. In the porcelain line they are apparently 'waking up' and looking to the United States and other markets.

"Japan, as well, is also 'booking up.' I can take you to stores in New York and Philadelphia where white china dinner sets can be secured with French china decorations, and if there is a man here who can tell, off hand, whether it is French china or Japanese—well, the set is his.

"The inference that I have tried to point out is self-evident; we need Governmental protection, and we should have it. We need increased efficiency in production, a full day's work for a full day's pay. It is the individual effort of the individual plant that makes for success—and collectively, we are a power. We should exert that force

for the good of the industry. And again, ceramic education is needed, first, last and all time. Place us on an equal footing and we are not afraid of competition, rather we welcome it, for that is the American spirit; but the balance today for the pottery lines isn't equalized. It is up to us to 'watch our step' and make it so."

Applause greeted Mr. Cook's remarks, and Mr. Bloomfield followed with a few pertinent references to the need for a just tariff revision in favor of the industry.

FELDSPAR AS A POTTERY MATERIAL

The first technical paper following, "Feldspar as a Pottery Material," by Homer F. Staley, Bureau of Standards, Washington, proved an interesting and instructive digest on this subject.

The paper was divided into primary sub-heads, as "Types of Feldspars," "Geological Occurrence," "Grading," and "Chemical Analyses." Under the first noted reference was made to potash feldspars, soda feldspars and lime feldspars, showing the different percentages of composition in the matter of silica, alumina, potassium oxide, sodium oxide and calcium oxide.

Feldspars, it was pointed out, are among the most widely distributed minerals, occurring as constituents of nearly all rocks and soils. Feldspars of commercial value usually occur as constituents of igneous rocks of extremely coarse textures, known as "pegmatites." Under the head of "Winning and Preparation," the method of quarrying was set forth, followed by reduction at the mill into commercial sizes. The product is usually divided into grades as follows: No. 1—Free from iron-bearing minerals, containing a little mica and not over 5 per cent. of quartz; No. 2—Nearly free from iron-bearing minerals and white mica, may contain up to 15 or 20 per cent. quartz; this grade is also known as "standards;" No. 3—Not carefully selected, contains higher percentages of iron-bearing minerals, white mica and quartz.

In making practical recommendations, Mr. Staley said: "The best solution of the feldspar problem for potters seems to be to adopt methods that have been used by potters for many years, these are:

"1—The purchase of no feldspar of grade poorer than No. 2 from reputable production and insistence that the material furnished be up to grade; 2—The use of at least two blends of feldspar in each mix, the amount used of each brand being taken from two different shipments; and 3—Thorough testing in trial melts of each new shipment of feldspar to determine what change, if any, should be made in the mix to accommodate it to the new feldspar."

In the matter of substitutes for feldspar, it was pointed out that Cornwall stone, known also as Cornish stone, is used in England, as well as America, for this purpose; also, that white mica has been tried in an experimental way in this connection, while talc can also be used in a small amount as a substitute. Of these, Cornwall stone is the most satisfactory.

Following a brief discussion of the interesting points brought out, adjournment was voted for luncheon.

AN ENJOYABLE LUNCH

The Entertainment Committee had arranged for a fine luncheon for the party at Hotel Kline, and a private dining room was secured for this purpose. The distance from the Queens Building was just far enough to create a good appetite, and no time was lost in "going to it" with a vim. The only "note of discord" was when August Staudt, head of the Perth Amboy Tile Works, and a member of the committee in charge, "broke the spell of contentment" by reminding those assembled to have "their \$1.50 each ready when the waiter called."

MUSEUM OF CERAMIC PRODUCTS

The opening address was made by Helen C. Perry, State Museum, Trenton, on the subject of "A Museum of Ceramic Products." She gave an interesting talk on the work of the museum up to the present time, showing the number of visitors calling for information and the cooperative work of the institution with schools thruout the state.

Miss Perry pointed out the advantages to those in the ceramic industries in arranging for a permanent exhibit of wares of all kinds at this place—an exhibition that would show a visitor at a glance just what New Jersey has and is accomplishing in this line. It should comprise, she said, clays, historic pottery specimens, various processes of manufacture, and arranged in a simple way so that anyone, layman or otherwise, could readily understand.

The speaker seconded many of the oft-repeated remarks of President Cook on this subject, and impressed those assembled, including Mr. Cook, himself, that such an exhibit would be a valuable acquisition not only for the state, but for those in the various branches of the trade.

At the conclusion of this talk, Mr. Bloomfield made a motion that a resolution be passed requesting the legislature to set aside a room permanently, when the addition to the state house at Trenton is completed, for an exhibition of fine ceramic products. This was approved unanimously.

ELECTION OF OFFICERS

The nominating committee was called upon for its report, and thru its chairman, O. C. Bowman, 2nd, made the following recommendations: President, Abel Hansen, head of the Fords Porcelain Works, Perth Amboy; vice-president, C. S. Maddock, Jr., of Thomas Maddock's Sons Co., Trenton; secretary and treasurer, Professor George H. Brown, Director, Department of Ceramics, Rutgers College. These selections were approved by a unanimous vote, as were those for members of the Executive Committee, with term expiring in 1922, as follows:

F. A. Whitaker, General Ceramic Co., Keasbey; and R. H. Minton, General Ceramic Co., Metuchen (both re-elected); Leslie Brown, Lenox, Inc., Trenton; Charles W. Crane, head of C. W. Crane & Co., New York; and Frank Dinsmore, Imperial Porcelain Works, Trenton.

For the term expiring in 1920, the following members remain in office: George E. Hoffman, Trenton; Cyrus Borgner, Cyrus Borgner Co., Philadelphia; D. J. Fisher, Sayre & Fisher, Sayreville; and Everett Townsend, Robertson Art Tile Co., Trenton. Charles Howell Cook was elected to succeed Samuel Bedson, who has removed to another state.

For the term expiring in 1921, the members are: August Staudt, Perth Amboy Tile Works, Perth Amboy; A. M. Maddock, Thomas Maddock's Sons Co., Trenton; R. K. Bowman, Trenton Fire Clay & Porcelain Co., Trenton; Andrew Foltz, Lambertville Pottery Co., Lambertville; and Charles A. Bloomfield, Bloomfield Clay Co., Metuchen.

Mr. Bloomfield was re-elected councilor by a unanimous vote.

Mr. Hansen took the chair, being escorted to this position of office by ex-Presidents Bloomfield and Staudt. In assuming the responsibilities of the presidency, Mr. Hansen said:

"I appreciate the honor accorded in electing me to this position as the head of your organization. I will try to do my best for our growth and success during the coming year, but, let me say, without your cooperation and support. I will not be able to accomplish all that we aim to do. It will be hard for me to fill the place of our retiring president, Mr. Cook, for he has filled this position with efficiency and marked success; his untiring efforts have helped our progress materially."

OIL BURNING IN A CERAMIC PLANT

The first technical paper of the afternoon session was on the subject of oil burning, termed, "Oil Burning in a Ceramic Plant," by R. L. Clare, Federal Terra Cotta Co., Woodbridge, N. J., illustrated with a number of interesting lantern slides. This paper covered the adaptation of this character of fuel for kiln service, and brought out some illuminating points on this subject.

Taking a typical firebox, it was shown that this can be made easily into a burner for oil fuel by a removal of the grate bars and bricked up ash pit, leaving a flared opening for the oil. The burner opening is kept low and the air allowed to come in over the flame to prevent the melting down of the arches. The bottom of the firebox is filled with a high grade refractory to protect the brickwork, and deflect the fire upward.

In regard to necessary equipment for oil burning, it was set forth that this includes a tank storage, say from 25,000 to 100,000 gallon capacity, with heating coils to keep the oil fluid; two small oil pumps; small intermediate tank to reduce pulsations from the pumps; air compressor or blower; and burners and piping. The intermediate tank noted, is placed between the pumps and the kilns.

Mr. Clare said that it was necessary that the oil pressure be kept uniform in order to insure perfect control at the burners, and also, to prevent the burners from being extinguished due to a drop in pressure. A pressure regulating valve was suggested as an added precaution. The piping around the kilns should be designed so that the oil circulates around them and the surplus returns to the tank. The necessity for properly heated oils was mentioned, and more perfect combustion is obtained, it was set forth, when the oil is well heated and thin. The question of the particular type of burner is one entirely a matter of judgment, and there are many good burners on the market.

As regards the relative economy of oil fuel as compared with coal, it was pointed out that 150 gallons of oil could be made easily to do the same work as a ton of coal in kiln practice, and probably better. At this basis, with comparative cost figures, a ton of coal delivered costs about \$6.00, while 150 gallons of oil at 5 cents per gallon would represent \$7.50, a balance in favor of the coal, but which might be reduced readily by careful oil firing. Again, with oil fuel there is no coal to handle, no ashes to care for and accordant reduction in kiln labor. Moreover, one must also consider the cleanliness of the kiln department when using oil.

An interesting discussion followed the reading of this paper in which Mr. Cook, Mr. Bloomfield, Mr. Whitaker and others joined. The last mentioned said that the General Ceramics Co. had recently made tests of oil firing at the Keasbey Works, where open fire kilns are maintained, rather than the muffled kilns described by Mr. Clare, and that difficulty had been evidenced in securing a flame of sufficient length.

As a result of the talk, Mr. Cook made a motion, promptly seconded, that a committee be appointed to investigate the oil firing of kilns of different type, with report to be made at the next meeting of the association during the coming summer at Trenton. This motion was approved by a unanimous vote, and President Hansen appointed Mr. Clare, Mr. Whitaker and Mr. Minton on this committee.

FUEL ANALYSES

The matter of "Fuel Analyses" was handled in an able manner by A. C. Fieldner, supervising chemist, Pittsburgh Experiment Station, United States Bureau of Mines. This paper was an exhaustive treatise on sampling and analysis, and covered standardized methods for conducting this work

as arranged at the Government station. It was illustrated by a number of interesting and instructive slides.

It was brought out that in sampling work, a fairly large sample should be used, ranging in certain cases up to 1,000 pounds, taken in uniform increments of 10 to 30 pounds, and from various parts of the lot. The standard methods for analysis was pointed out as (1) Preparation of Laboratory Samples; (2) Approximate Analysis and Sulphur Determination; (3) Ultimate Analysis, and (4) Determination of Heating Value.

These were dealt with under their respective heads, showing the perfected means of arriving at definite results in tests of coal from different parts of the country. The Proximate Analysis consists of the determination of the moisture, ash, volatile matter and fixed carbon, while in the Ultimate Analysis the composition of the coal is expressed in percentages of ash, sulphur, carbon, hydrogen, nitrogen and oxygen. Analyses of this latter nature require certain skill on the part of the chemist and seldom are made in the commercial laboratory.

The paper concluded with a survey of the fusibility of coal ash of American coals, including the bituminous coals of Pennsylvania, Alabama and Tennessee; the New River and Pocahontas coals of West Virginia; Ohio and Eastern Kentucky coals, and coal from other parts of the country.

Mr. Fieldner was asked a number of questions at the conclusion of the paper, covering simple ways of sampling coal as received in the car at the ceramic plant, practical methods of storing to eliminate fires, and the like. A number of interesting and valuable points were brought out.

A little laughter was caused by Mr. Staudt, who in his inimitable way complained that the discussion was waxing a little too technical, inasmuch as it was difficult to secure coal of any kind these days, let alone that of high thermal efficiency. He said, "I don't know how it is with some of you, but I do know the trouble we are having in getting coal; my 'flivver' has been going day and night picking up any kind of coal securable, nut, stove, pea—in fact, anything that looked black. Maybe some of the B. t. u.'s were missing from my coal, I don't know, but I am glad to get anything nowadays, regardless of B. t. u.'s."

NEW TYPE OF PRODUCER-GAS FIRE BOX

The use of producer gas for the kiln operation at the fire brick plant of S. G. Brinkman, Fords, N. J., was described by R. H. Minton under the title of "A New Type of Producer-Gas Fire Box," illustrated with a few lantern slides.

The brick at this plant, it was set forth, is made by the dry press process, with plastic fire clay; the primary equipment comprises a dry pan, screen and dry press. The green brick are burned in a regular down-draft kiln. Six such kilns are used, arranged in a circular manner around one central stack, and to which each kiln is connected. The stack is formed with webs or partitions dividing it into a series of air chambers, with 4-inch brick walls, and in a way that permits the inner part to remain cool under all conditions. The fire box arrangement is very efficient; incidentally, it looks simple, too, but it was necessary to rebuild it about twenty times until the desired results could be secured. Two sets of grate bars are provided, instead of one, and the operation is such that all gases are burned as they come over the grate bars. These kilns, 30 feet in diameter, holding 30,000 nine-inch brick, were fired in a four-day period with 15 tons of coal, net.

As regards fuel consumption, it was set forth that a successful tunnel kiln builder states that the yearly average consumed for a production of 5,000,000 fire brick, burned in down-draft kilns was 1,440 pounds per thousand; for the tunnel kiln, the average was 650 pounds per thousand. With

the kiln under consideration, the average was 900 pounds per thousand

PROPERTIES OF POTTERY BODIES

H. G. Schurecht, Bureau of Mines, Mining Experiment Station, Columbus, Ohio, presented an interesting paper entitled, "Properties of Pottery Bodies and Glazes," embodying a technical study of the effect of different operations on material of this nature. The lecture was illustrated with a number of interesting and instructive charts.

The various subjects covered were: Elutriation tests on kaolins; effect of electrolytes, grinding, screening and organic additions on bodies; refractories; coefficient of expansion on ceramic bodies; crazing of glazes with special reference to the coefficient of expansion; luster decorations for pottery; preparation of lusters; and aventurine glaze.

The coefficient of expansion of bodies is important, it was pointed out, not only to prevent crazing of glazes, but also in bodies which are required to resist sudden temperature changes. The bursting of porcelain vessels is nearly always to be traced to strains between body and glaze due to a difference in coefficient of expansion of the body and the glaze. A thoro knowledge of the factors governing the expansion of bodies and glazes is very important to the ceramist.

Mention was made of the recent work at the Bureau of Mines, Washington, covering various recipes for luster decorations on porcelains, and some attractive lusters were obtained. In this type of luster the coloring material is converted into the resinate which is then dissolved in a mixture of benzol and rosemary oil. The liquid luster is then applied to plain white glazed porcelain with brush. Before this application, it is necessary to clean the pottery thoroly with alcohol. After the luster has been applied, it is placed in a muffle kiln about six inches from the bottom, care being exercised to prevent finger prints on the paint in handling. The ware is fired to 500 to 600 degrees Centigrade. On reaching this temperature, a crucible containing soot is placed in the kiln which causes reducing conditions and the same is then allowed to cool slowly. The ware after removal is polished free from soot.

In the preparation of lusters, reference was made to resin soap, iron resinate, bismuth resinate, tin solution, iron solution, balsam of sulphur, platinum luster and liquid bright gold.

FURNACE GAS PRODUCER

The last paper on the program covered a description of a furnace gas producer by Charles W. Parks, ceramic engineer, International Clay Machinery Co., Dayton, Ohio. It was pointed out that the furnace gas producer has been designed primarily to reach the large majority of clay plants, particularly those operating periodic kilns.

The speaker gave a complete description of this producer, showing that it is a simple cast iron arrangement to be used for each fire box of the kiln; the only additional equipment required is a one-inch steam line running around the kiln and feeding into each fire box thru a jet. A boiler is required, just the same as for all producer gas installations and a pressure of 50 pounds on the boiler will prove sufficient. The advantages of the furnace were summarized and a number of interesting photographs and line drawings shown.

TARIFF TO PROTECT AMERICAN PRODUCTS

Before the adjournment of the meeting, a little further business was necessary, this covering a report of the association finances by an auditing committee appointed earlier in the day, and the election of a nominating committee for the coming year. This latter will comprise R. L. Clare, C. E. Jacquart and John Maddock, Jr. The auditing committee set forth that the total receipts were \$199.35 and expenditures,

\$180.40, leaving a balance of \$18.95, exclusive of dues collected at the meeting.

A vote of thanks was given to the speakers and to Rutgers College for courtesy extended in allowing the use of the Fine Art Room for the meeting.

Charles A. Bloomfield made a motion—"Whereas the country is due to suffer from unfair competition without a protective tariff, that the war in itself acted as a protective tariff during such time, and now that the war is over and the industrial forces of Europe are getting together for foreign trade, resolved—that the secretary of the association be directed to address the United States Senate and different members of Congress that it is the unanimous wish of members of the association that a protective tariff bill be adopted that will protect American products, and especially the clay and ceramic industries of the country." This was seconded and passed.

ATTENDANCE

Among those in attendance at the meeting were:

Abel Hansen, Fords Porcelain Works, Perth Amboy, N. J.
 Professor George H. Brown, Director, Department of Ceramics, Rutgers College, New Brunswick, N. J.
 Homer F. Staley, Bureau of Standards, Washington, D. C.
 Charles Howell Cook, president, Cook Pottery Co., Trenton, N. J.
 Charles A. Bloomfield, president, Bloomfield Clay Co., Metuchen, N. J.
 Edward C. Stover, Trenton Potteries Co., Trenton, N. J.
 Andrew Foltz, president, Lambertville Pottery Co., Lambertville, N. J.
 Theodore Harburt, Lambertville, N. J.
 Charles T. H. Phillips, president, Sneyd Enameled Brick Co., Trenton, N. J.
 Louis Pable, Monument Pottery Co., Trenton, N. J.
 August Staudt, president, Perth Amboy Tile Works, Perth Amboy, N. J.
 O. C. Bowman, 2nd., J. L. Mott Co., Trenton, N. J.
 William Dinwiddie, Metuchen, N. J.
 M. M. McHose, McHose Clay Co., Perth Amboy, N. J.
 C. S. Maddock, Jr., Thomas Maddock's Sons Co., Trenton, N. J.
 Francis H. Burroughs, Star Porcelain Co., Trenton, N. J.
 William Bedson, Elite Pottery Co., Trenton, N. J.
 Elsie C. Millen, Weehawken, N. J.
 Joseph Boughay, Trenton, N. J.
 William M. Shakespeare, Thomas A. Edison, Inc., Bloomfield, N. J.
 John H. Leisen, Woodbridge, N. J.
 Ramsey Bedson, student, Department of Ceramics, Rutgers College.
 G. A. Williams, Tottenville, Staten Island, N. Y.

O. E. Mathiasen, student, Department of Ceramics, Rutgers College.
 Albert E. Edgar, student, Department of Ceramics, Rutgers College.
 Franklin S. Thompson, Department of Ceramics, Rutgers College.
 L. T. Richardson, New Brunswick, N. J.
 F. B. Allen, M. D., Valentine & Brother Co., Woodbridge, N. J.
 Charles W. Crane, Charles W. Crane & Co., New York.
 Fred A. Whitaker, General Ceramics Co., Keasbey, N. J.
 G. M. Tucker, New York Architectural Terra Cotta Co., Long Island City, N. Y.
 William Schultz, Didier-March Co., Keasbey, N. J.
 Paul C. Buechner, Crossman Co., South Amboy, N. J.
 Joseph L. Buckley, Ceramic Equipment Co., Trenton, N. J.
 Leslie Brown, Lenox, Inc., Trenton, N. J.
 John B. Maddock, John Maddock & Sons, Trenton, N. J.
 E. C. Hill, Conkling-Armstrong Terra Cotta Co., Philadelphia, Pa.
 S. O. Conkling, Conkling-Armstrong Terra Cotta Co., Philadelphia, Pa.
 Henry B. Kummel, State Geologist, Trenton, N. J.
 Stephen E. Meagher, Trenton, N. J.
 R. H. Minton, General Ceramics Co., Metuchen, N. J.
 Charles H. DeVoe, Old Bridge Enameled Brick & Tile Co., Old Bridge, N. J.
 Robert P. Hazlehurst, Old Bridge Enameled Brick & Tile Co., Old Bridge.
 Herbert W. Moore, Perth Amboy, N. J.
 H. J. Knollman, Abrasive Co., Philadelphia, Pa.
 W. S. Herman, Abrasive Co., Philadelphia, Pa.
 H. Schmidt, Roessler & Hasslacher Co., New York.
 William F. Kerr, New York.
 C. J. Hudson, Norton Co., Worcester, Mass.
 Robert S. Finney, New York.
 A. C. Fieldner, Bureau of Mines, Pittsburgh, Pa.
 D. J. Fisher, Sayre & Fisher Co., Sayreville, N. J.
 C. M. Fisher, Sayre & Fisher Co., Sayreville, N. J.
 G. Rupp, Sayreville, N. J.
 Christopher Mathiasen, South Amboy Terra Cotta Co., South Amboy, N. J.
 Frank D. Holmes, Thomas Maddock's Sons Co., Trenton, N. J.
 A. Zakharoff, New York.
 R. B. McCafferty, Brown Instrument Co., New York.
 J. H. Ryan, Mutton Hollow Fire Brick Co., Woodbridge, N. J.
 R. P. Grace, Mutton Hollow Fire Brick Co., Woodbridge, N. J.
 Eric C. Turner, Cook Pottery Co., Trenton, N. J.
 A. S. Barlow, Roessler & Hasslacher Co., New York.
 L. E. Riddle, Jr., Metuchen, N. J.
 J. R. Edgar, Lake County Clay Co., Metuchen, N. J.
 D. R. Edgar, Lake County Clay Co., Metuchen, N. J.
 H. G. Schurecht, Bureau of Mines, Mining Experiment Station, Columbus, O.
 D. H. Applegate, Jr., Philadelphia Textile Machinery Co., Philadelphia, Pa.
 Charles W. Parks, International Clay Machinery Co., Dayton, Ohio.
 Charles E. Jacquart, American Enameled Brick & Tile Co., South River, N. J.
 Washington Holt, Trenton, N. J.
 George Simcoe, Electrical Porcelain Co., Trenton, N. J.
 M. F. Nagle, South Amboy Terra Cotta Co., South Amboy, N. J.
 LeRoy W. Allison, eastern editorial representative, BRICK AND CLAY RECORD.



PRICES CONTINUE *to* SOAR—BRICK RUSHED *to* NEW YORK *by* RAIL *during* ICE EMBARGO

DEFINITE GAGE of the probable scope of the 1920 building market was obtained toward the week-end by the demand upon dealers for building materials, the announcement of the contract price for sand, gravel, crushed stone and grit that will rule in this market between now and June 30, and the provisions that are being made to arrange for a free supply of building material into this market at last during the next twelve months, says the Dow Service Daily Building Reports of December 22.

The best barometer as showing that the building movement for next spring is going to be above the best normal ever known is that of concrete ingredients, such as sand, gravel, crushed stone and grit. The contract price as issued to the trade shows clean Cow Bay sand at \$1.90 a cubic yard, as against a price of 45 cents in 1912; \$3.25 a yard for crushed stone as against 85 cents in 1912; \$3.25 a cubic yard for gravel as against 85 cents in 1912 and \$3.50 a yard for grit as against 50 cents in 1912. The fact that as soon

as these prices had been issued to the trade, important tonnages for future delivery were booked, signifies that the market is much stronger than price.

ICE BARRIERS BLOCK COMMON BRICK DELIVERIES

This is true of many other building commodities. Common brick is still quoted at \$20 wholesale, dock, N. Y. with the usual additional charge for handling, carting, etc. and 15 per cent., but the demand is growing so great that some covered brick is even now being held for \$22.50 a thousand. Points above Newburgh are already shut out from further supply by ice barriers and a tow with many barges of brick is stuck fast in the icy Hudson somewhere near Newburgh with little hope at the week end of its reaching this market before the present supply at \$20 became exhausted.

Jumps in the price of basic lumber show changes ranging from \$10 to \$20 a thousand feet. The wood lath market is now only nominally quoted at \$13 a thousand. It is not

any longer a question of price, but one entirely of getting the commodity under any condition. Many dealers are out of stock on this commodity entirely and cannot get more at any price.

The advance in the price of Portland cement which was predicted in the Dow reports as something to be expected around the first of the year, developed in part by two companies advancing the wholesale price 25 cents a barrel. The larger companies have not yet followed suit altho there is a general proposal being advanced to increase the credit on the empty cotton bags from 15 cents to 25 cents. This proposal has aroused a general protest on the part of the dealers who take the stand that the boost in the price of bags to the manufacturer should be added to the cost of the material rather than to making a further change in the price of the bag which, they say is an unwise thing to do at a time like this. The manufacturers say that bags that formerly cost them \$112 a thousand, now cost \$280 and that they have been absorbing these extra costs all during the war and since its close. It is further shown that Portland cement has stood out almost alone during the war and since its close with the distinction of not having shown an advance in price,

but during the war actually voluntarily made a cut below that recommended by the Federal authorities.

GREATER ACTIVITY IN GENERAL CONSTRUCTION

Financial, constructional and building material interests who have been watching with growing interest the rapid advance in the price of building materials and construction costs expressed considerable satisfaction in the passage of the Edge-Ackerman amendment to the Federal Reserve Banking act in that it will encourage the erection of much-needed office and loft buildings downtown to meet the requirements of new corporations being formed to serve the foreign trade accelerating purposes for which it was framed.

Whatever the cause there was a distinct change toward greater activity in the general construction market last week. Vast projects running into the millions came into the active estimating market with some contract awards. The closing of navigation to the shipment of brick to this market before Christmas for the first time in thirty years proved the genuineness of the demand for materials when it was made attractive to dealers to arrange to have necessary brick rushed to this city by rail during any possible ice bargo. This is a recourse probably never before resorted to.



SIX TRUCK LOADS *of* TILE *for the* FARM

THAT PORTION of the seven million American farm owners that are Iowans, are rapidly being brought to the realization of the fact that it pays to build well, and as a result, buildings which a few years ago would have been constructed of flimsy, unsafe materials, are now being erected to defy the ravages of time, fire and flood. It is quite safe to say that this progressiveness is further advanced in the Iowa farmer than in the farmers of any other state. However, there are perfectly good reasons for this, an important one of which is the fact that Iowa clay products manufacturers have been conducting association advertising designed to educate the farmer as to the value of clay products in farm building construction.

The age of unsafe building on the farm is slowly but surely being drawn to a close and in its stead is dawning an era of permanent, fire-safe, beautiful and wonderful buildings—of hollow tile.

In this transition which has been brought about by the need for greater care in the storage of food stuffs, and in the housing of farm materials, has been created a market for the manufacturer of hollow tile which is unlimited in its scope and possibilities, and the rapidity with which a complete change from flimsy frame to permanent hollow tile construction on the farm is effected is largely dependent upon the activities of the manufacturers of the latter material in acquainting the nation's farmers with those qualities which make their product peerless for use in farm buildings.

The accompanying photograph is a scene on the plant of the Auburn (Iowa) Brick & Tile Co., of which S. J. Galvin is secretary manager. This particular factory is situated in the little town of Auburn, Iowa, a rich agricultural center. An interesting feature of this view is the six auto truck loads of hollow tile which are being hauled from the clay factory at one time, all of which is for farm building use. These



Six Auto Truck Loads of Hollow Building Tile Ready to Leave a Clay Products Plant for a Farm Where a Modern Fire-proof Structure Will Be Constructed.

auto trucks do not belong to the clay plant but to various farmers in that section of the country. A farmer residing near Auburn was ready to haul hollow blocks for a new farm structure he was to erect, so he called in a few of his neighbors to haul the material from the clay plant. It so happened that all of them owned auto trucks and it was quite unusual for six auto trucks to come for clay farm building tile at one time. However, Mr. Galvin says: "There is nothing so very remarkable about this, but we have heard at different times that other manufacturers hardly realize the extent to which Iowa farmers are making use of hollow block and it has just occurred to us that this picture might give them some idea as to what our association advertising has done for us in this section of the country, as well as to show the progressiveness and prosperity of the Iowa farmers."

* * *

Date of Wisconsin Meeting

Wisconsin clay manufacturers will meet for their twentieth annual convention at Milwaukee headquarters, the Republican House, on February 12 and 13, 1920. This meeting promises to be a great get-together convention for the purpose of advancing the interest of Wisconsin manufacturers. A very good year has been experienced as far as demand is concerned, and an opportunity will be had at this meeting to exchange ideas on how to meet the important problems that are confronting the industry in Wisconsin.

An excellent program is under preparation which will include interesting and instructive talks on various subjects of vital importance to every manufacturer. Several of the members have promised to describe the general methods of operation adopted at their plants, and opportunity will be given for a full discussion of local problems of preparing, drying, and burning clay wares.

Other matters that will come up for attention, will be a discussion on railway rates, the labor problem, need of advertising, and how to solve the problem of the high cost of labor and fuel.

Everything points to a record-breaking attendance for the coming meeting. Every Wisconsin manufacturer, be he a member of the association or not, should endeavor to attend and become better acquainted with his fellow manufacturers and thereby more fully acquire the spirit of helpful co-operation which should prevail and will be of benefit to him.

* * *

Nebraskans Have Fine Program For Meeting

Clay product manufacturers of the Cornhuskers' state are looking forward to one of the biggest meetings ever held in their section of the country during the week of February 2, when the Nebraska Brick and Tile Association will meet at the Lincoln Hotel, Lincoln, Neb. Altho the program is not in definite shape, it is expected that the annual convention will commence on the third of February and last for three or possibly four days. It has been decided to divide the program into three sections, one to be known as the technical section, wherein the subjects of clay analysis, machining, drying and burning will be discussed. The second section will be on mechanical subjects, such as plant lay-out, power, local transport and excavating. The third section of the program will be devoted to administration meetings under which head there will be discussions on labor, finance, accounting and marketing.

Professor R. K. Hursh, who delivered a splendid address on dryers at last year's meeting, has promised to be again on hand and to handle the technical side, which in itself is an assurance that the technical section of the program will be well worth while.

Ellis Lovejoy, a well known brick plant engineer from Columbus, Ohio, has been invited to handle the mechanical feature of the program. The subjects under the head of mechanical section are topics of considerable importance to every manufacturer and a great deal of valuable knowledge can be gained by attending this session.

The topics for discussion under the head of administration are all "head liners" and there is not a manufacturer in the state of Nebraska, or in any other part of the country for that matter, but who needs suggestions and counsel on those important topics which are confronting the industry with considerable prominence. This session has in Mr. Straight, of the Adel (Iowa) Clay Products Co., a very capable leader to handle this phase of the clay plant operation.

Besides the above splendid features of the program, Ralph P. Stoddard, secretary of the Common Brick Manufacturers' Association of America, will be at hand to address the meeting. Mr. Stoddard, who has made wonderful progress for the Common Brick Manufacturers' Association, has a very timely message to deliver to brick manufacturers, and it will be a treat for everyone to hear him.

* * *

Sand Lime Brick Men to Meet Feb. 3 and 4

The Sand Lime Brick Association will hold its sixteenth annual meeting at the Lafayette Hotel, Buffalo, N. Y. on February 3 and 4, 1920. An interesting program is being prepared and a large attendance is hoped for.

* * *

Oregon Clayworkers to Meet in Portland

Samuel Geijsbeek, secretary of the Oregon Clayworkers' Association, announces the date of the next annual meeting of the above association for January 22. The convention will be held in Portland, the program for which will be announced at a later date. The secretary's office has been removed from Room 604 to Room 402 of the Blake McFall Building, Portland.

* * *

Thank You for Favors Received

Brick and Clay Record is again, at this season of the year, the recipient of many beautiful calendars, booklets, Christmas and New Year cards, and wishes herein to express its thanks and appreciation for these kind remembrances.

The Cannelton (Ind.) Sewer Pipe Co., E. M. Freese & Co., Galion, Ohio; Marion (Ohio) Steam Shovel Co., and J. C. Steele & Sons, Statesville, N. C., have issued very useful office calendars, having large size numerals which may be readily seen from the other end of the office. The Roessler & Hasslacher Chemical Co., Chicago, has sent out a handsome calendar, and the Bonnot Co., Canton, Ohio, is sending out a leather covered memorandum book, which contains much useful information.

Cards and booklets of greeting have come in from the Standard Brick Co., Macon, Ga.; Geo. H. Clippert & Bro. Brick Co., Detroit, Mich.; Maruzen Co., Ltd., Tokyo, Japan; Corry (Pa.) Brick & Tile Co.; Sheridan (Wyo.) Press Brick & Tile Co.; R. D. T. Hollowell, Secretary, American Face Brick Association, Chicago; Federal Motor Truck Co., Detroit, Mich.; The Bonnot Co., Canton, Ohio; Chattanooga (Tenn.) Paint Co.; American Pulverizer Co., St. Louis, Mo.; A. Leschen & Sons Rope Co., St. Louis, Mo.; The Nichols-Moore Co., Cleveland, Ohio; Eagle Iron Works, Des Moines, Ia., and the Morse Chain Co., Ithaca, N. Y.

Brick and Clay Record wishes you, one and all, a very happy and prosperous New Year.

FOCUS LIGHT *from* ADVERTISING *upon* YOURSELF

To Get Full Advantage Out of Publicity Campaigns Being Conducted by the Various National Clay Products Associations, It Is Necessary to Do a Little Promoting for Yourself—Read What These Manufacturers Say About Using Literature to Advance the Use of Clay Ware

ALTHO SEVERAL of the large national clay products associations are planning extensive advertising campaigns, which include the use of newspapers, magazines and specially printed booklets, many agree that this work should be supplemented with individual advertising. Like a lens that focuses the light which flows from the lantern where it is generated, on to a screen, the manufacturer should use his own literature to direct upon himself the attention of the publicity work undertaken by the national associations.

Some months ago, *Brick and Clay Record* published an article containing the views of twelve different manufacturers on the question as to whether or not the daily newspaper is a good medium for clay products advertising. Believing that the use of special literature in the form of booklets, pamphlets, brochures, and so forth, in promoting the use of clay ware, is also very desirable, *Brick and Clay Record* has been gathering data as to the opinion of manufacturers on such matters pertaining to the distribution of pamphlets in regard to their expense, use, results obtained, comparison with other methods of promotional work, kind and style recommended, with which to supplement the article on newspaper advertising.

Much valuable information has been derived from the data obtained from a large number of manufacturers, most of whom are very favorable to the use of literature in the form of books and pamphlets to promote their business. A very prominent Pacific Coast concern says:

RESULTS MORE THAN PAY COST OF PUBLICATION

"We are firm believers in advertising of every kind and there is little doubt in our minds that one of the most effective methods of bringing the clay manufacturer's goods to the attention of those interested in building, is thru the proper distribution of booklets, pamphlets and catalogs pertaining to his products and the use of them.

"We have found that a good method of getting the booklets to the proper people is to advertise that you have them for distribution and it is seldom that a person not interested will take the trouble to request a copy of a booklet. We, of course, send all of our literature to the architects, large contractors, many real estate dealers and speculative builders.

"We have used many different booklets, some very small and inexpensive, others more elaborate, and of course, of a higher cost. We believe that the cost of a booklet should be governed by the articles advertised and the extent of the distribution contemplated. For instance, our roofing tile catalog is quite an extensive publication, but it is unnecessary to make a public or general distribution of them. In other words, compared with the total number of buildings

erected, there are few who would be interested in roofing tile. On the other hand, we have just gotten out a mantel booklet of an inexpensive design and intended for general distribution. Practically every house has a mantel of some sort.

"We have no accurate method of keeping track of the results obtained from the distribution of our various booklets, but feel that we could not maintain our reputation of being the most progressive clay manufacturers in the West without these booklets and we know that the results direct and indirect are many times the cost of publication.

"It may be of interest to know that we inserted a small advertisement in the weekly building page of one of our local newspapers, advising that we had just published a mantel book and within three or four days we had requests for about forty of these booklets, and our new sales room is almost continuously full of people investigating our products and a fair percentage, of course, places orders."

Another western clay products manufacturer outlines three methods of advertising clay goods and gives information on one of these methods, namely, the use of booklets, pamphlets, and so forth. He states:

BELIEVES IN COOPERATIVE ADVERTISING

"We are only a small concern but believe that a certain amount of advertising or publicity work is necessary in our line. This work might be divided into three divisions:

1. Local advertising by one or more.
2. Nation-wide advertising done by the united work of the manufacturers.
3. By means of booklets, pamphlets, and so forth.

"We wish to speak especially of the latter method. Take brick for instance, we would have a booklet showing the places where brick could be used other than in building construction. In this booklet we would have colored cuts showing all the uses to which brick could be profitably put, such as in porches, pillars, fences, walls, walks, and so on, and reading matter telling how best to construct these specialties. Such a booklet could be put together in some loose-leaf form so that if we wish to give information on a special subject, for instance brick porches, we could hand out a few pages devoted to that topic, and if we thought a party would be interested in several uses of brick, our entire booklet could be supplied.

"Suppose a customer wanted brick for a walk and asked us how to construct it. We do not have the information at hand with which to supply our client and hence he would probably lay the walk in most any manner which may reflect against the brick. However, if we give him cuts showing

handsome brick walks with descriptions and directions how best to construct them, it would be an incentive for him to use brick and the successful application of brick in this one case would lead to many others.

"We believe this is work for a nation-wide organization of clay products manufacturers and we should get together and do it up in the best way possible."

SHOW THE USES OF CLAY PRODUCTS

A Wisconsin clay manufacturer who is located in a farming community believes that much can be done in showing farmers how clay products may be used in the construction of all kinds of buildings. He writes:

"In connection with the use and distribution of literature in the advertising of clay ware, we wish to state that our products have been, for the most part, sold locally, and therefore, it hasn't been necessary to use the different methods of advertising. However, we feel that booklets, and pamphlets sent out at intervals would bring results. The farmers are now pretty well informed as to the benefits and use of tile drainage, but in the case of building materials we think there is much that could be done in showing how clay products can be used in the construction of all kinds of buildings and the advantages over other kinds of building material."

One of the most interesting letters received was that from a Louisiana establishment which believes that the use of booklets, containing house plans, is one of the best forms of advertising. The following information should be exceptionally interesting to *Brick and Clay Record* readers:

USE BOOKLETS SHOWING HOUSE PLANS

"The use of house plans in the form of booklets, showing floor plans and pictures of the completed houses ranging from a five room cottage, to be built as economically as possible, to homes costing not exceeding \$7,500 would, in my opinion, help more than anything else.

"There are several concerns who make a business of supplying books of house plans to lumber dealers. For example, the Keith Corporation of Minneapolis, is supplying booklets containing about thirty plans each. These are gotten up in series called A, B, C, D and E. Book A contains plans of very small houses only; book B, plans of houses of a little better class and book C plans of the best class one-story bungalows. Book D contains plans of two-story dwellings only.

"These books are all printed on good paper with the dealer's name on them and can be bought in quantities for about fifteen cents each. If books of this character with plans only for brick construction were gotten out and containing a short, well written article entitled 'Economy in Home Building,' and the brick manufacturers could buy them for distribution, it would, in my opinion, be educational and the best advertisement. Perhaps a separate booklet on 'Economy in Home Building,' would be better. This should, of course, be written from the standpoint of economy in brick construction and along the line of one gotten out by the Hydraulic Press Brick Co., of St. Louis, Mo.

"In addition to being manufacturers of brick, we deal in a general line of building supplies. In the early spring the Chamber of Commerce, assisted by the national dealers and contractors, launched a 'Build a Home' campaign, and we purchased a supply of these books, not being able to secure plan books for brick cottages, except the book called 'One Hundred Bungalows,' which is too expensive for general distribution. As soon as we received these books we announced thru the local daily paper and on the screen at the local moving picture show, that we had them to give absolutely free to any prospective builder who would call at our office for them. We had an immediate response, and consider this the best advertising we have ever done.

"In this connection, the Keith Corporation will furnish blue prints and detail specifications for any plan shown in the books at a very small cost.

"The average person thinks that it is useless to consider a brick home and most contractors discourage it and sometimes when a brick manufacturer has gone to the trouble of educating the prospective builders, they have been able to keep their plants in operation during dull periods by furnishing brick for dwellings, when they otherwise would have been closed down, had they depended entirely upon other classes of building. The best example of this to the writer's knowledge, is Mr. O'Neal of the Hope (Ark.) Brick Works.

"We confess our neglect along this line, and a survey of our town will show it. There isn't a small brick residence in the city and we now have under consideration, the purchase of a lot in one of the best residential districts for the purpose of constructing a brick cottage of common building brick, keeping an accurate cost of same. Our purpose in doing this is to advertise the use of brick in the construction of residences and to secure comparative costs with other materials. Of course, we are having all the brick business we can do just at the present, but there will doubtless be a time when we will need this residence work to keep our plant running. The time to begin this education is now while business is good."

BELIEVES IN ADVERTISING NOVELTIES

"Advertising," says a floor and wall tile manufacturer, "has but one object to attain; that is to create a demand, but no community or individual can demand or desire that of which it knows nothing. The buyer of any commodity must know that there is service, a comfort, a pleasure, a something to be gained. And so, the advertiser has much to do. First he must educate, but when that education is completed, the task still remains to see that the lessons are not soon forgotten.

"Enough has been said of the value of magazines in carrying out a national advertising campaign, and the newspaper for local home building campaigns. These are the educational mediums each fitting in its place, each reaching its desired goal. Booklets, pamphlets, brochures, and so forth, also fall in line and aid in the education.

"But lest he still forget, what is more fitting to jog the memory, recall the lesson once learned, than a neat serviceable little glazed ash tray on the buyer's desk, a paper-weight, a pencil holder, or a neat pair of book ends to hold up his catalogs and references books? These little things are easily made and help to make clay products an every day thought."

KEEPS IN CLOSE TOUCH WITH ARCHITECT, CONTRACTOR AND DEALER

A Georgia brick company approaches the subject from this standpoint:

"There are three different sets of men to whom any prospective builders, not 'up' on building material would go; the architect, the contractor, and the building material man. We, therefore, as accurately as possible, keep an up-to-date list embracing the men mentioned above, and we send them monthly calendars, usually with a short snappy letter on some current subject.

"We find this the most effective means of increasing our business. In addition to the above, we run ads in most of the leading papers in the territory in which we do business. We are using now seventeen weekly newspapers, our ad appearing in each paper twice a week, running all the way from twenty inches to a full page. We use a booklet, gotten up to interest builders of small cheap homes.

"We do not think a very expensive booklet would pay. The man to whom you would send an expensive booklet, has

experience enough to realize the value of the service of an architect, and would not be interested in a booklet. We, therefore, think that we should do everything in our power to convince the architects of the superiority of brick as a building material, and then by educating the public, we will have the field covered.

"We believe that an advertisement with a picture included, is worth about four times as much as one without."

HERE IS A DISSENTING VOICE

That all manufacturers are not agreed as to the advantages of advertising with booklets, is shown by a letter received from a Kentucky sewer pipe manufacturer who says:

"We have not observed any very great advantage in the use of booklets, and so forth, as a means of advertising. In fact, most of such matter that reaches our office is not opened."

CATCHY NEWS ITEMS PROVE SUCCESSFUL

A Pennsylvania brick manufacturer, whose plant once belonged to a large face brick concern in New York City, which did all the advertising for its many plants writes:

"One of our greatest successes in the local field, has been the use of local advertising distributed thruout the reading pages as small catchy news items and in this way we have



Showing Types of Advertising Literature Which Have Been Used by Some Clay Products Concerns to Promote the Use of Their Wares. These Booklets Serve More Than Advertising Purposes, Since Nearly All of Them Are Educational in Nature Also—A Decidedly Worthy and Essential Attribute.



All of the Above Pamphlets Are Distributed by One Concern. Each Booklet Meeting a Particular Need. The Method in Which These Pamphlets Are Distributed, Is Described by the Manufacturer, in the Text.

swung quite a few buildings over from frame to brick construction."

URGES SIMPLICITY IN ADVERTISING

The matter which is quoted below is from a letter containing the data of the experience of a large organization in the Central West which has done considerable association work and advertising and whose experience is very valuable indeed. They say:

"We have used booklets, pamphlets, bulletins and printed blue prints in direct advertising with very satisfactory results. There does not seem to be much doubt in our minds about the necessity for such literature, whether the campaign be direct or space advertising. Of course, it is necessary to use some judgment in the distribution of the more expensive publications and particularly in direct advertising there should be some cheaper method of being assured of the interest of the party addressed before the booklets are mailed. We have secured lists, principally of farmers in Iowa, and mailed a small folder including a return card coupon, and figure that a reply, by such a route is as valuable as a reply received from a newspaper advertisement.

"We have not used newspaper space extensively and are perhaps not qualified to express much in the way of comparison between that form of advertising and the direct mailing form, but we have found that we are able to get replies at a much cheaper rate by the direct form of advertising.

"We believe that the booklets should be specific, and should get to the point by the shortest route; that is a separate

booklet should be used in the clay business, which will deal with the economic features of permanent construction in general; another on construction of brick and tile houses; one on barns and silos; another on chicken and hog houses; another on garages and shops, and so on. Drainage should be treated generally, we believe, bringing out the economic features and advising consultation with engineers, and so forth.

"We are dealing with questions of necessity in marketing this product and so have less to do with the spectacular in advertising than do those who sell automobiles, ladies' furs, and so forth. We feel that advertising should not be neglected because it cannot be carried on in its most artistic form. The thing that appeals to us is that we need to get information regarding the lack of obstructions to permanent construction before the interested builder and if he is interested, he will take it in if it is offered to him in the simplest of folders."

DIRECT MAIL ADVERTISING WINS OUT

Another very valuable contribution to data on the method of using pamphlets, booklets and brochures in advertising, is that received from a Texas brick manufacturer who says:

"Without the use of high grade booklets and pamphlets, especially designed to produce a desired result, it would have been impossible for this business to have grown to its present proportions during the slightly less than six years that we have been on the market with interlocking tile.

"Prior to that time we were large users of advertising

space in the newspapers, but our product was face brick in a very small range of shades, so the sales problem was quite different when we placed a hollow tile, intended for load bearing purposes on the market.

"This necessitated considerable educational propaganda, the detailed form of which can be expressed much better in direct mail advertising than in general publicity newspaper copy.

"Under separate cover, I am sending you a set of the literature we are using at this time from which you will readily get an idea of the class and character of our direct mail literature.

"The 'Why' folder and the 'Detail Booklet' are both general features, the former so prepared as to interest and convince the layman; the latter is more particularly intended for the contractor and architect, altho also made as clear as possible to the layman's mind.

"Such pamphlets as the 'Cost Comparison' and the 'Gulf Storm' enclosure, are gotten out for general mail distribution and go in all classes of correspondence with our agents, dealers and prospective customers. These are not standard features of our advertising literature, but are prepared to cover the subject whenever we have anything timely or feasible to tell about as indicated in these two folders.

"The 'Interlocker' is a house organ which we send regularly to architects and contractors. We also use these as a 'follow up' to prospective customers who have inquired of us for information concerning interlocking tile.

"'From the Dealer's Point of View' is self-explanatory.

"'How Clara and Bob Convinced the Old Man,' is a little book that has been quite successful, especially when sent to the women folks.

"In addition to these, we have specialized pamphlets on the subject of hospital construction, school construction, ice house and cold storage construction, factory and warehouse construction, and so forth, all of which are explained by their titles, and the character and quality of which are fully up to the standard set in our other printed matter.

"No part of our advertising plan receives more careful attention than our printed literature, and these tied up with the carefully prepared sales letters, both form and specially dictated, that are used in our promotion department, have made interlocking tile the standard load bearing, wall building material in our territory."



High Prices For High Times

How shall we define a "normal price" today? Are these times normal? And prices, moreover, have no fixed relation to prosperity. What we call the cost of living has actually no real relation to prices. For while the present price level is high, the human effort that must be put forth to live, which is the actual "cost of living," is as low as it ever has been—far lower for us than ever in any one country in the history of the world—simply because in most cases a day's work will buy as much and sometimes more than before the war and because a given amount of labor will secure an amount of necessities and luxuries that men, say twenty-five years ago, never dreamed of possessing.

There is no doubt that salaried people and unorganized laborers have suffered from the fluctuating dollars, and that speculators have made temporary large winnings, but, by and large, the cost of living in the sense of this country's productiveness, the yield of its natural resources, the accessibility of its supplies brought about by the vast network of distribution, is on an excellent basis.

Canadians Schedule Interesting Papers, Plant Inspections and Entertainment for Annual Meeting in Toronto

A perusal of the preliminary program that has been arranged for the eighteenth annual convention of the Canadian National Clay Products Association points to a bigger attendance than at last year's meeting, which proved to be one of the most successful ever scheduled by this association. The guests will convene at the Prince George Hotel, Toronto, January 20, 21 and 22.

The papers that will be presented at this meeting include one on "Field Tile," by F. L. Ferguson, of the Ontario Agricultural College, Guelph, Ont.; "Stone in Brick Clay," by Joseph Keele, chief engineer of the ceramic division, Mines Branch, Ottawa; "Firing Clay Products in Dressler Continuous Muffle Kilns," by Conrad Dressler of the American Dressler Tunnel Kilns, Inc., New York; "Pyrometers for Tile, Brick and Sewer Pipe Factories," by Wm. Printz.

Millard F. Gibson, manager of the National Fireproofing Co., Toronto, will talk on "Pottery Possibilities in Canada." A paper on "Burning Common Brick in Producer Gas Fired Kilns," will be given by Geo. Cuthbush of the Don Valley Brick Works, Todmorden, and a representative of the Goodyear Tire & Rubber Co., Ltd., will discuss power transmission and material conveying. Wm. Robertson, of the Ontario Provincial Clay Products plant at Mimico, will read a paper on "The Manufacture of Floor Tile, Roofing Tile, Sanitary Cove, etc."

Wm. Burgess, president of the association and superintendent of the Don Valley Brick Works, will read a paper on "The Modern Methods in Soft Mud Brick Manufacture." Discussion on this paper will be given by W. H. Freeborn, Brantford, and C. H. Burk, manager of the Arnold-Creager Co., New London, Ohio.

It is expected that other papers will be prepared and read at this convention by D. C. Merkley, Ottawa; H. H. Hallatt of Tilbury; Ed. Cornhill of Chatham, and others. A question box will be conducted by Millard F. Gibson. Everyone is invited to send in to the secretary a question relating to plant problems and these will be turned over to Mr. Gibson to answer at one of the sessions.

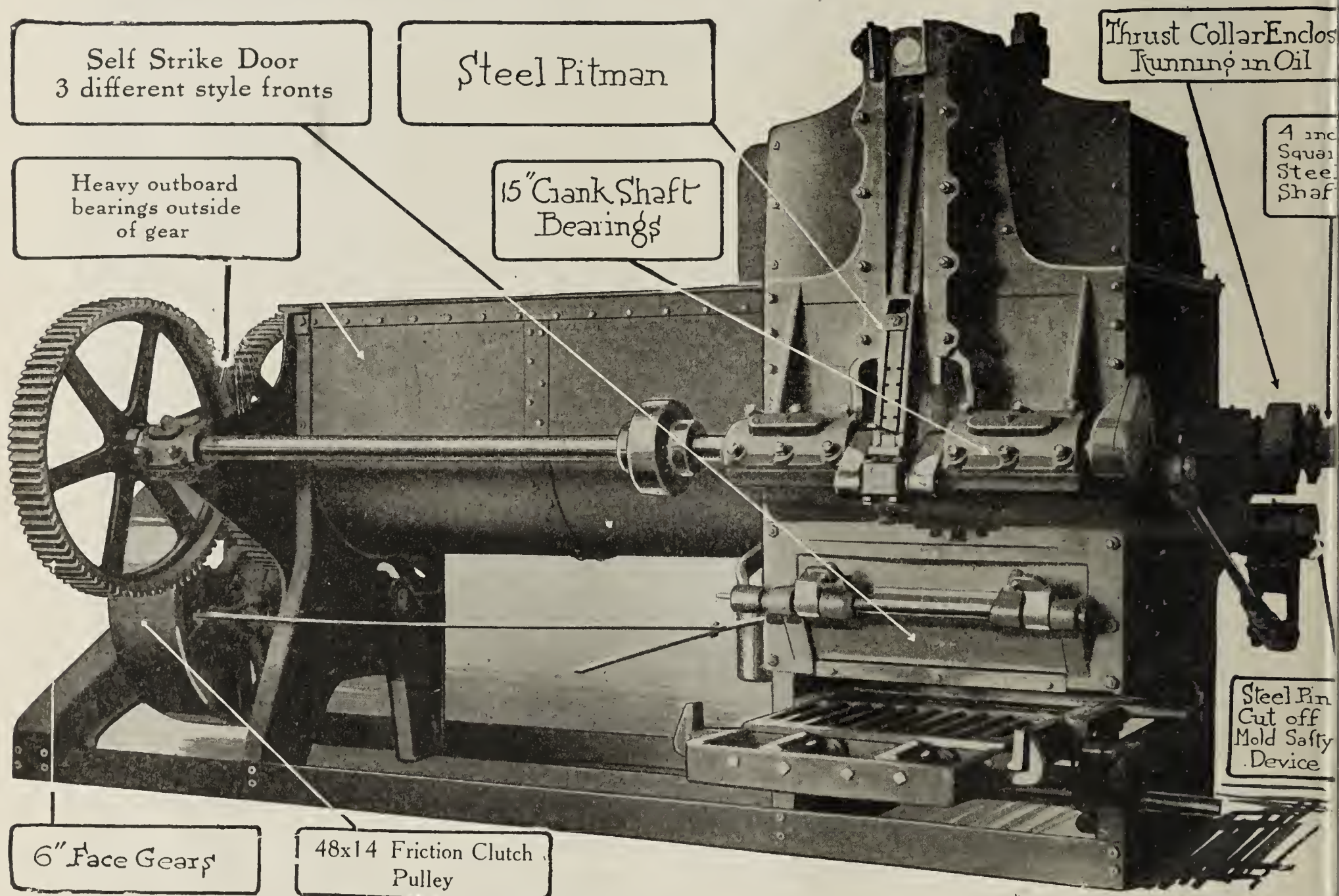
Visits will be made during the convention to several important plants west of Toronto where many new and valuable features are to be seen. Visitors will be taken by special motor cars. Full announcement of these trips will be made in the final program.

On Tuesday evening, January 20, members and their friends will be the guests of the entertainment committee at a theatre party.

A big annual banquet is under preparation at which J. F. M. Stewart, of the Port Credit Brick Co., will be toastmaster. Speakers will include Brigadier-General C. H. Mitchell, Dean of the Faculty of Applied Science, Toronto University; Chas. H. Bryan, Detroit; Theodore Randall, Indianapolis; J. P. Anglin, President of the Canadian Association of Building and Construction Industries, Montreal. It is expected that Hon. Manning Doherty, Minister of Agriculture for Ontario, will also give an address.

Music will be supplied by Wm. Moore, Dr. Donald C. MacGregor, Albert David, and Chas. H. Leslie, a celebrated Toronto quartette, and Miss Myrtle Brown. The Pavlowa orchestra will supply music during the banquet.

The Latest Improved Wellington Special No. 7 Brick Machine



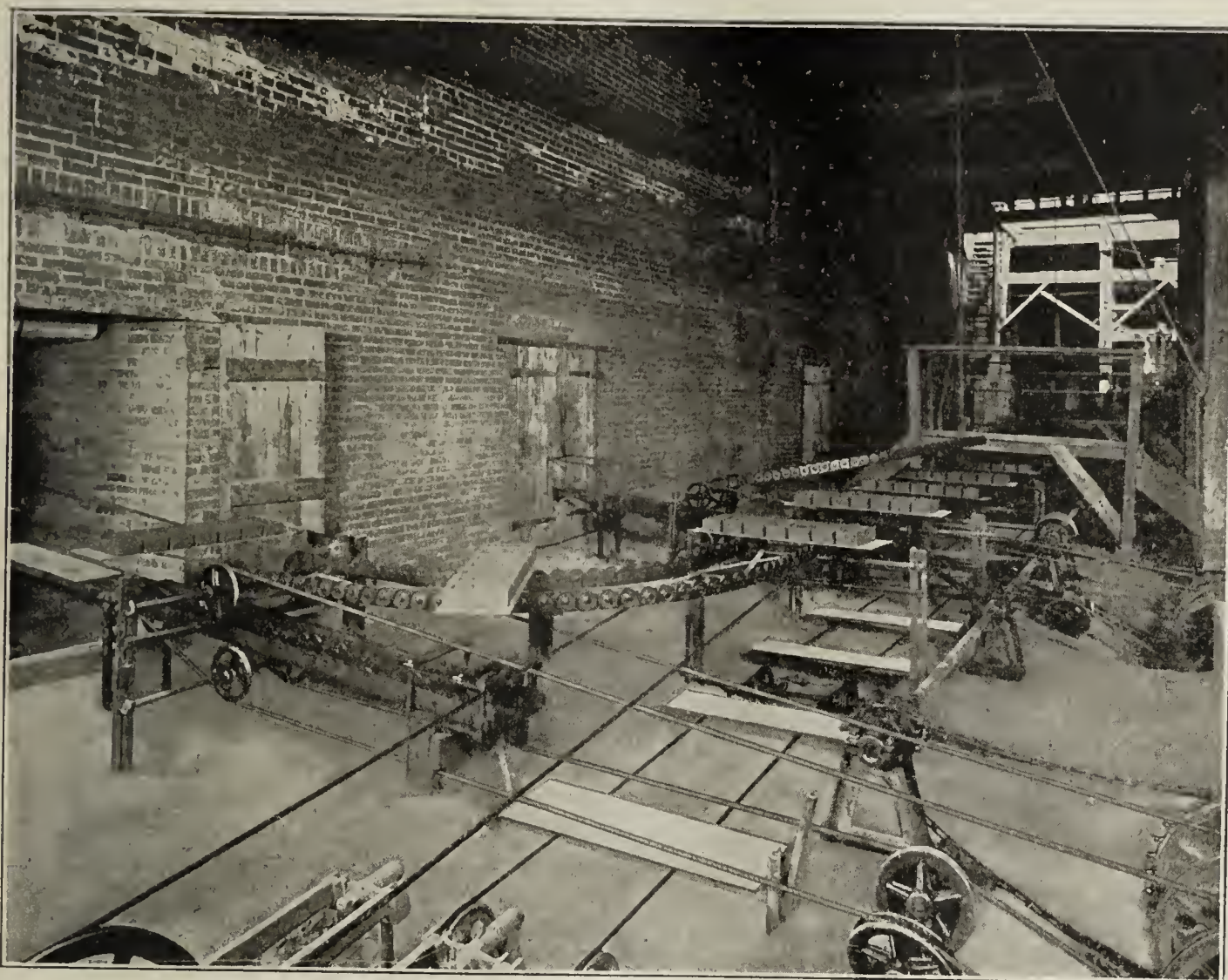
ALWAYS "Necessity has been the mother of invention." The increasing demand for a simple, strong machine that will work day in and day out, and make good brick has resulted in the perfection of the Wellington No. 7 Brick Machine.

Here alone can you buy a complete brick making equipment and a highly satisfactory pipe rack dryer.

The Wellington

Wellington,

With a Vacuum System Pipe Rack Dryer Will Give You a Model Yard



The Cross Conveyor carrying brick from Machine to Dryers without labor trouble—empty pallets returning on lower cable.

*Write a few of our users.
Here's a representative list.*

J. S. Haggerty, Detroit, Mich.
4 Dryers of 33,000 each.

The Donnelly Brick Co., New Britain, Conn.
1 Dryer, 60,000 capacity.

Cook & Brown Lime Co., Oshkosh, Wis.
1 Dryer, 40,000 capacity.

Cleveland Builders Supply & Brick Co., Cleveland, O.
3 Dryers, 120,000 capacity each

Collingwood Brick Co., Toledo, O.
2 Dryers of 35,000 each.

Ohio Brick Co., Toledo, O.
1 Dryer of 35,000 capacity.

Walker & Frank Brick Co., Detroit, Mich.
1 Dryer of 33,000 capacity.

Mercier-Bryan-Larkins Brick Co., Detroit, Mich.
1 Dryer of 60,000 capacity.

F. Seitter's Sons Co., Philadelphia, Pa.
1 Dryer of 50,000 capacity.

Owen Hatten, Philadelphia, Pa.
1 Dryer of 23,000 capacity.

OUR engineers, from practical brickyard experience, can solve your problems—from straightening a “kink” in the machine, to designing or laying out of your entire equipment including building complete. We have designed and built most of the leading soft-mud plants of the middle west, turning them over to the brickmaker ready for operation.

Machine Company

Ohio, U. S. A.

Exclusive Soft Mud Experts

WORKING HARD *on* BRICK and TILE FREIGHT RATE CASE

The Big Hearing Before Interstate Commerce Commission to Take Place in March—Some Speculation As to Effect Return of Roads Will Have on Proceedings

By Waldon Fawcett

SERIOUSLY BEHIND SCHEDULE as to time but with unflagging purpose, is the movement of the allied brick and tile interests to secure relief from the unjust and inequitable railroad freight rates that now oppress the industry and that are so serious in some instances as to virtually prevent traffic in these commodities in certain territories. Latest indications are that the hearing before Commissioner Daniels of the Interstate Commerce Commission can not be had before March but the interests that will be responsible for portraying at that hearing the plight of the industry are by no means idle. Indeed they have plenty of preliminaries, such as the mustering of corroborative evidence to keep them busy until the hearing, even if this climax in the long fight be postponed until a later date than March.

There has recently been current in trade circles an irresponsible rumor to the effect that the national freight rate case, affecting brick and tile products was heard before the Interstate Commerce Commission in Washington in December. That report was totally unfounded. The only explanation of its currency was that there did occur in December a hearing before the Louisville (Ky.) District Freight Traffic Committee of the U. S. Railroad Administration. However that involved merely "a local issue," namely a proposed revision of rates from Melville, Tenn., to Ohio and Mississippi River crossings, the protest on behalf of the allied brick and tile interests having been instigated by the one part most directly concerned, viz., the B. Miffin Hood Brick Co., of Atlanta, Ga., which has one of its plants at Melville.

FREIGHT RATE COMMITTEE MEETS JAN. 12

As for the national freight rate case it may be said that Francis B. James, one of the counsels for the associated brick and tile interests, has devoted the closing weeks of the year to conferences with brick and tile men at Chicago, Cleveland, Canton and other strategic points on the industrial map. On January 12 at Cleveland will come the general meeting of the freight rate committee at which plans will be made for the active campaign for relief that is to come. Then will follow the conferences with attorneys representing the U. S. Railroad Administration in an effort to clear away such issues as can be disposed of by agreement or compromise, on the plan already reported in detail in *Brick and Clay Record*. Thus the decks will be cleared for the final showdown at the Interstate Commerce Commission which was originally set, it may be remembered, for this past autumn but which events have conspired to shove forward.

In the industry there will doubtless be much speculation as to what will be the effect if the railroads should be handed back to private management before the brick and

tile case can be disposed of. It is obvious that if the U. S. Railroad Administration were suddenly put out of business there might be a job to the effort for the amicable adjustment of rates where the two parties to the controversy are not "far apart." In so far as the disposition of the fundamental issue by the Interstate Commerce Commission is concerned, however, it is not so clear that it will matter much which way the cat jumps. The prospect is that whether the common carriers be in the hands of the public or the private owners the Interstate Commerce Commission will remain on the job as the supreme authority as to the reasonableness of rates, etc., etc. Furthermore, just in proportion as the probability deepens that the new year will bring a general increase in freight rates is it desirable that relief be afforded the brick and tile interests. If the business world is to have all tariffs marked up there is added reason why there should be correction forthwith of the discriminations that lie against brick and tile as compared with competitive building materials.

"UNFINISHED BUSINESS" PIGEON HOLE A WORRY

While the uncertainty as to the future of the railroads has presumably very little effect upon the prosecution of the national effort to secure for brick and tile their proper place in the category of commodities, it is calculated to prove a disturbing factor in connection with local predicaments such as that which has inspired the Hood Brick Co. to take action. Take, as an illuminating illustration of the complications, the case which has just been heard at Louisville. From the Louisville District Traffic Committee that case must go to the regional committee at Atlanta and from there, in due course, will come to the arbiter in the traffic department of the Railroad Administration at Washington. Any person who knows anything of the time consumed in winding and unwinding red tape can surmise that if the railroads were handed back to the owners within a few months such cases as this might be caught in the "unfinished business" pigeon-hole.

Whereas the case argued at Louisville involves a specific incident and is local or territorial in its application, some of the points emphasized in the discussions are of significance to the trade at large. For example, there was the insistence that fire, common and pressed brick should have the same rate and a most vigorous protest against the proposition that ground and raw clay should be charged a higher freight rate than the finished products. Representatives of the industry likewise found occasion to formally combat, in this connection, certain misconceptions, common in railroad circles, with respect to hollow building tile. Railroad officials and rate makers have long cherished the delusion that hollow building tile is more fragile than brick

whereas trade experts contend that this is not the case. On the other hand there is encountered in this same quarter a supposition that hollow building tile does not load as heavily as brick.

As an illuminating example of how the present unscientific system of railroad rate making is operating to add continually to the burdens borne by isolated members of the trade there is commended to the perusal of interested persons the statements lately issued by the Southern Railroad Lines West covering proposed changes in rates on clay products shipped respectively from Melville, Tenn. and from Chattanooga. Incidentally this case seems to reveal the need for the attainment of a scientific balance or relationship in rate making as between brick and tile slabs or promenade tile. On typical hauls in the Southern territory brick was formerly charged 11 cents per 100 pounds as against 15 cents for the tile slabs but it is now proposed to place these materials almost on a parity by putting brick up to 12 cents whereas the promenade tile would be dropped to 12½ cents. Meanwhile hollow building tile for the same hauls would be pegged at 16½ cents.

"CLASS A" PROPOSITION A SORE GRIEVANCE

There are other hauls in that section of the country where there is even more marked evidence of a disposition to grant more liberal treatment to the tile slabs or promenade tile. For example on the haul between Melville, Tenn. and Cairo, Ill. or Paducah, Ky. it is proposed to slash the rates from 34 cents to 15½ cents. Perhaps the sorest grievance of the men in industry grows out of the Class A proposition on clay. The idea of exacting from the raw material a higher carrying charge than from the finished product seems utterly preposterous. Some of the spokesmen for the industry who have expressed themselves on this point declare that even if there be some excuse for imposing an equivalent rate on ground clay there can be no justification for imposing such a burden on raw clay. In the case heard at Louisville, the parties at interest in the industry were willing to accept certain rates "temporarily" which only goes to afford further evidence of the accumulation of responsibilities that must some day be faced if the entire country-wide industry is to be given an equitable, harmonious, standardized system of freight rates.

* * *

Increase in Deportation of Aliens and Remarkable Expansion of Those Assuming Citizenship Brought to Light in Secretary Wilson's Annual Report

The annual report of Secretary of U. S. Labor, as reported by the Boston "Transcript" calls attention to the present prominence of labor organizations of a revolutionary or lawless type, declares that responsibility for them must fall on employer who opposes organization of lawful trade unions, and notes that industrial disputes more and more menace the public as well as employer and employee; the report says the right to strike should be a means of defense and not a weapon of offense; report declares increased productivity is the only way in which standard of living of wage-earner can be improved. The report also states that 254,273 aliens came to America during the fiscal year ended June 30, of whom 245,647 were admitted and 8,626 excluded as against 211,853 admitted the year before; aliens departing during last fiscal year numbered 216,231 as against 193,286 last year; aliens expelled under departmental processes during the year numbered 3,068, as compared with 1,569 in 1918, while the total number of aliens deported was 11,728,

as against 8,916 in 1918; number of admissions to citizenship during past year amounts to 21,358, larger than any preceding year; military statistics show 128,335 aliens who acquired citizenship after they assumed the U. S. uniform; persons directly affected by labor disputes brought to attention of Department of Labor during the year numbered 1,011,968, while number directly affected was 1,336,072; during the year commissioners of conciliation were assigned by the department to 1,780 cases, including 587 strikes, 1,113 disputes and threatened strikes, 63 lockouts and 17 walk-out; of these, 1,229 were adjusted exclusive of 219 referred to National War Labor Board, the commissioners failing to make settlements in 111 cases. Strong recommendations were made for reviewing and continuing the Working Conditions Service instituted during the war to investigate working conditions and to recommend standards for their improvement.

* * *

New Type of Floor Tile to Be Made

The Self-Spacing Tile Co. has changed its name to the Superior Tile Co., Pittsburgh, Pa., and was recently incorporated with an authorized capital of \$250,000. The purpose of the company is to manufacture quarry tile, building brick, etc. The company holds a patent applying to quarry tile which it claims will reduce the labor in laying this material with the popular joint or space at least one-half. In other words, they claim the tile they will make will be an improvement on the tile now in use, such that will revolutionize the industry. In addition to the self-spacing feature, the tile is also self binding. The product will be known as Tilex, which name is being registered together with the trade-mark. While the company has not definitely decided upon the location for a plant it is understood that they have several very valuable propositions underway and expect to be producing by May, 1920. John Kertes, the inventor, who for twenty years has been engaged in the manufacture of tile will be in charge of the factory production.

* * *

An Education in Building Modern Homes

The Department of Agriculture of the Ohio State University, Columbus, is arranging to start a campaign educating the rural population in the building of modern homes. The plan is to get farmers over the notion that farm buildings and equipment are more essential to success than modern, happy well ordered homes. A train of five cars will be equipped showing modern methods of construction as well as modern equipment for homes and this will be taken to various parts of the state for demonstration purposes.

* * *

Forty-Seven Ceramic Students at Illinois

The department of ceramic engineering, University of Illinois, seems to be keeping pace with the general increase in enrollment of students at the above university. Forty-seven students have been enrolled in the course of ceramic engineering this semester, which is a very good showing for that department.

* * *

The Kentucky Clay Products Association will hold its annual meeting shortly after the first of the year, altho the time and place have not been definitely decided upon as yet. Plans are being considered for a better meeting and larger attendance this year.

FOR *a* NEW CERAMIC BUILDING

THE FIRST BIG GUN in the campaign for a new ceramic building at Rutgers College, New Brunswick, N. J., was fired on the morning of December 17, when a delegation of ceramic men from Middlesex and Mercer counties called on Governor Runyon at the State House, Trenton, to enlist his aid for an appropriation for this purpose. The work preliminary to this interview, covering various committee meetings, has been set forth in recent issues of *Brick and Clay Record*.

The appointment for the delegation to see the governor was made by State Senator Thomas Brown, Middlesex County, who is heartily in favor with the movement, and the visitors were received in a private chamber shortly after 10:30 o'clock. Following a formal introduction of the thirty or more present, Senator Brown stated the purpose of the call in an impressive and forceful manner.

He cited the need for a new building for the ceramic school, to be used both as a technical institution and for research activities, showing how handicapped the state was in this direction at the present time with very limited facilities. He spoke of the gains which have been made in the ceramic industries during the past few years, thru the pressure of the war, and the strides that Ohio and Illinois had made in the establishment of fully equipped buildings of this character, under state aid. Before concluding he mentioned the progress made in England, France and Germany in the ceramic field, and pointed out that unless proper support and encouragement is given, the gains that New Jersey has made will be lost as time goes on in the maze of foreign competition. Beyond the advantages of a building of this character for research for manufacturers' benefit, the necessity for the training of the young man was illustrated. He told the governor that an item of \$100,000 was requested in the state budget now being made up for the initial work.

Professor George H. Brown, Department of Ceramics, Rutgers College, followed Senator Brown with a few terse remarks regarding the extent and importance of the ceramic industries, and the urgent need for technical training for advancing in the arts. He explained the facilities of the present school, saying that it was not a place, as it stood, to attract the young man. Moreover, the difficulties in serving state manufacturers in the matter of research and investigations were set forth in a terse and expressive way.

GREAT NEED OF TECHNICAL MEN POINTED OUT

Charles A. Bloomfield, Metuchen, N. J., who is responsible for the present school at New Brunswick, and which, incidentally, he almost had to beg for some years ago, took up the argument from this point, and "went after" the governor in vigorous fashion. He told of New Jersey's wealth in plastic clays, the different intricacies of the industry, saying that in the matter of fire brick alone there were over seventy different varieties. He said:

"The uses of these different kinds of fire brick must be pointed out and explained to users—a man might save considerable by using a cheaper brick that will answer fully the same purpose as a more expensive one. We need technical men to help us, and if we don't have the right kind of a school we can never expect to have the right kind of men. When the clayworking industries of the state ask for this appropriation, they are asking only for what they are entitled to; the ceramic lines in this state can well be said to represent an investment of over \$150,000,000, and thousands and thousands of men derive their living in this field of work. The state should take pride in having a new building."

Mr. Bloomfield was seconded ably in his impressive talk

and appeal by Charles Howell Cook, president, the Cook Pottery Co., Trenton, and president of the New Jersey Clay Workers' Association. He told of the advancement being made in the ceramic industries in foreign countries, many of which give all possible support and aid to this branch of activity. He spoke of the onward movement in China, and the ceramic school which has been established in this country under the direction of a Japanese. Mr. Cook also made mention of the great need today, and anticipated in time to come, for the technical ceramist—the man who might point the way to many things that the more practical man might not know. In conclusion, he asked the governor to give careful consideration to the matter.

Other speakers were John Pfeiffer, Henry Maurer & Sons, Maurer, N. J.; Mr. Witte, Didier-March Co., Perth Amboy, and William Dinwiddie, Metuchen; these men impressed their listeners with the importance of the request, and how beneficial the result would be.

WILL INTRODUCE BILL IN LEGISLATURE

In reply to these appeals, Governor Runyon expressed his pleasure at receiving the delegation, saying that he fully appreciated and realized the importance of the mission; that his eyes had been opened by what he had just heard from the different able speakers. He mentioned his hearty sympathy with the cause, saying that he was convinced that the state should do something, and that in a substantial way to foster an industry of this importance. He pointed out that the appropriations asked in connection with the budget now being arranged exceeded the revenue to the state from various sources, but that he would do all in his power to obtain an appropriation. In conclusion, he set forth that if it was found impossible to include the item in the budget, a bill should be introduced at the next session of the legislature, and the appropriation derived in this way.

The session terminated about 11:30. Among those present at the conference were: Charles A. Bloomfield, Bloomfield Clay Co., Metuchen; Charles Howell Cook, president Cook Pottery Co., Trenton; Abel Hansen, head of the Fords Porcelain Works, Perth Amboy; Professor George H. Brown, director, Department of Ceramics, Rutgers College, New Brunswick; Senator Thomas Brown, Perth Amboy; Mr. Throop and Mr. Baker, Eureka Flint & Spar Co., Trenton; August Staudt, president, Perth Amboy Tile Works, Perth Amboy; Charles T. H. Phillips, president, Sneyd Enameled Brick Co., Trenton; William Dinwiddie, Metuchen; Mr. Wagner, Old Bridge Enameled Brick & Tile Co., Old Bridge; Mr. Witte, Didier-March Co., Perth Amboy; John Pfeiffer, Henry Maurer & Sons, Maurer; H. M. McHose Clay Co., Perth Amboy; Andrew Foltz, president, Lambertville Pottery Co., Lambertville; George Simcoe, Electrical Porcelain Co., Trenton; Christopher Mathiasen, South Amboy Terra Cotta Co., South Amboy; H. Reeder Chambers, head of A. Reeder Chambers, fire brick, Trenton; A. S. Barlow, Roessler & Hasslacher, Perth Amboy; John H. Leisen, Woodbridge; and LeRoy W. Allison, Eastern Editorial Representative, *Brick and Clay Record*.



Germans and Austrians Seek to Enter U. S.

According to official diplomatic dispatches presented on October 10 to the House Immigration Committee, 10,000,000 Germans and thousands of Austrians are awaiting opportunity to leave their native countries. It has been stated that the majority wish to come to the United States, with Argentina, Chile and Peru as second choice.

FINE CERAMIC MANUFACTURE



A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products Such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

KILN FIRING FOR SANITARY WARE PRODUCTION



THE SUBJECT OF KILN FIRING is one of broad general interest and practical information in regard to this matter is rather difficult to find to any great extent. Different conditions obtain, quite naturally, in different plants, and yet the methods used in one pottery are likely to be of particular moment to another. It is in this way, or by interchange of thought, that little kinks and ideas are brought to light, and such as may make for improved operating conditions in the kiln departments of other potteries.

A brief description of this feature of production at the plant of the Thomas Maddock's Sons Co., Trenton, N. J., one of the largest and most important sanitary earthenware manufacturers in this section, has been arranged in instructive and readable form, primarily for the benefit of employees in other departments of the works. The data, outlined below, deals with the elementary and practical phases of kiln firing thru the different periods of operation, and in a way to bring out real, practical values.

After the kiln has been placed and sealed it is turned over to the kiln firemen, who build a fire in each of the several boxes. The fire is made by placing charcoal or kindling wood on the grate, soaking the binding in kerosene and lighting it. Thus a bed is started which is continued by adding coal.

It requires about one bag of charcoal to light one kiln. Where the charcoal is used, it is customary to leave the fire-box doors closed until the bed of the coal is well ignited, and then opened to avoid getting up too much heat right at the start. Where wood is employed for kindling, the doors are left open from the start.

After the fire is well under way, coal is added a little at a time for a period of about 14 hours, at which time the mouth of the fire-box is about half full. For the next five hours coal is added more heavily until the mouth is well filled. A little space is left over the top of the fire to allow a free passage of air to drive the heat to the center of the kiln.

The fuel used in firing is soft coal. In some plants hard coal is used and in some places with certain types of kilns, gas, natural gas and kerosene are employed.

During the early firing the regulators, i. e., the two holes leading into the kiln above the fire-boxes are left open. Kilns in which the tops and bottoms heat close together are so operated that the regulators are put down about the twenty-fourth hour and the front doors are closed at the same time.

If it is found that the bottoms are heating ahead of the tops, as it sometimes happens, the fires are poked up well and no coal is put on for a half-hour to an hour, thus leaving the heat free to rise to the tops.

The regulators are used to control the heating of the parts of the kiln. If the regulators are open the bottoms heat faster than the tops, and the reverse is true.

From the very beginning of the firing, the cover over the damper hole in the crown is closed. This shuts the kiln up at the top with the exception of the small hole thru the cover. The cover is regulated by a chain and pulley. The chain passes thru the chimney of the kiln and hangs down outside within reach of the fireman.

THE FIRING PERIOD

The succeeding twelve hours, following the first twenty-four hours, are known as the "firing up" period. During the latter part of this period the firemen run the bar in the fire over the grates and lift up the bed gently to break up what clinkers have formed and give better draft. Poking and raking the fire requires a great deal of care, however; in fact, it is necessary to exercise constant watch and eternal vigilance during the whole firing.

The heat conditions of the kiln are determined by tests, trials and indicators, which have to be watched constantly. Many use Albany dop rings and cones.

It requires about 1,450 deg. Fahr. to expel all of the moisture from the ware. Up to 220 deg. Fahr. is known as the "water smoking" period. In the biscuit firing the temperature ordinarily reached for final firing is about 2,400 deg. Fahr., or between cone 9 and 10.

It is the purpose in firing to reach this temperature in the first 36 hours, and which temperature is sufficient to vitrify the body of the ware in the kiln. At this point is where the flint used in the body plays its part. Flint has a melting point much above that reached by our firings, hence does not fuse or become vitreous at the firing temperature. Accordingly, it acts as a frame work to the piece of ware, preventing it from losing shape, squatting or warping in firing.

At the end of 36 hours, if things have gone normally, the kiln is "fired off," i. e., no more coal is added and the fires allowed to burn out, while the drafts are kept closed.

It should be noted that oftentimes one part of the kiln fires faster than another, requiring checking of fires at one place and urging others. Also, many conditions, as weather, kind and quality of coal, etc., vary the firing process and alter the time of firing. The firemen work in shifts of twelve hours and one man takes care of one kiln.

Generalware and Sanitary Potteries Carry Many Orders Over Into New Year

Manufacturing potters, those engaged in both the generalware and sanitary lines will start the new year with more future business on their order files than ever before at this season of the year. During the late summer and fall buyers representing department stores and large jobbing interests visited the generalware markets with regularity, with the result they have anticipated their future requirements far into the new year. It is currently reported and not denied that some buyers have already placed business with generalware manufacturers for shipment as late as December, 1920. This is very unusual, but the buyers are of the opinion that the market will be very firm thruout the new year, and that the sooner specifications are placed the greater assurance they have that prompt deliveries will result.

There has been a decided improvement in the sanitary pottery business during the last quarter of the year, and the trade will show a still greater gain during the first and second quarter of 1920. It is generally believed that building activity will be more pronounced during 1920 than since before the war. In addition to this new work there will be a considerable amount of remodeling of old homes, and sanitary pottery requisites will be in heavy request for this purpose. All sanitary potteries are well filled with orders, and no small amount of business is being carried over into the new year which could not be shipped in the last quarter of the current year. Practically every sanitary pottery plant in the United States is now on the active list.



Dinnerware Demand to Be Still More Acute

That the demand for dinnerware will be more acute during the New Year than has ever before been experienced is the general opinion of not only general ware manufacturers, but by buyers of these products as well. Since the close of the holiday rush retail stocks are more depleted than ever, and distributors now freely admit that they are unable to supply matchings in any great volume, and that local demand continues as strong as during the holiday season.

Believing that the situation in the pottery trade is such that the distributor and consumer as well should be advised correctly of the facts confronting the manufacturers, W. Edward Wells, secretary-treasurer of the Homer Laughlin China Co., of East Liverpool, O., and Newell, W. Va., has issued the following statement:

"Before the war approximately one-half of the dishes used in America were made in America. The other half came from abroad. The reason was that wages were much lower in Europe. American potters could not compete on some lines and pay American wages. Cost of labor has gone away up in Europe, but the American potter still pays more than double the wages paid in any foreign pottery. Yet very little foreign pottery is coming to this country, that is, very little compared with pre-war days. The European potter is up against it. He lacks fuel, men and transportation facilities. Hence the demand for American dishes has almost doubled. Obviously the demand cannot be met. Pottery construction, like pottery manufacture, is a slow process. Besides, the high cost of building and the scarcity of skilled workmen prohibit large or quick extensions. It takes two years to build a pottery, and three years to train a potter. There are not enough trained men to fully run the potteries now operating. The temper of the men is not such as to guarantee maximum production. The output per

man is not what it once was, and it cannot be helped. The capacity of the American potteries was large enough to meet all the demands before the war. But, there was not a large surplus capacity for making goods that could not be sold. Hence, the domestic potter cannot take up the slack created by the large decrease in importations.

"This means a national famine in dishes which promises to continue indefinitely. Without attempting to place the responsibility for this condition, it clearly does not lie with the American potter. He is doing his best to meet the situation. He is declining to ship anything out of the country, altho the markets of the world are now open to him for the first time. He is confining his shipments to the home market, and largely to his pre-war customers. His deepest concern is that he cannot keep his customers supplied. His toughest job is trying to explain the following things:

"Why orders cannot be filled for many months. Why definite shipping dates cannot be set. Why all estimates of dates are liable to go wrong. Why all orders must in fairness be filled in rotation. Why requests for preference to certain orders must be refused, no matter what the circumstances. Why fixed prices cannot be quoted to apply no matter when shipment is made.

"The opportunity is wide open for profiteering, but the Homer Laughlin China Co. has taken a stand firmly against that practice from the beginning. The customer will be charged a legitimate margin of profit only. The prices will never be above the prevailing market, and sometimes below it. But fluctuations in cost are so rapid and extreme that the cost of goods to be shipped months in the future cannot be estimated. Therefore we must either continue to accept orders at prices prevailing at time of shipment, or set the price so high as to provide against all contingencies. The latter alternative is the easier and more profitable, but it isn't fair to the buyer or the customer."

Inability of pottery manufacturers to obtain sufficient fuel to operate their kilns on regular schedules during December caused a rather heavy loss in possible output. For some days at a stretch not a kiln was "fired off" and this in turn clogged other plant departments. Loss of this kiln production immediately caused a delay in shipping of both plain white and decorated ware. Manufacturers were powerless to improve the situation. They were not allowed gas for their kilns, and those plants using coal for kiln firing were unable to obtain requirements because of the strike of the coal miners and the resultant shortage.

Immediately at the close of the Christmas rush, buyers for jobbing interests and large department stores took a hurried glance at their depleted stocks and in some cases these folk left Christmas night for the pottery markets. This indicates the marked shortage of stocks in the hands of the distributors, and the urgent demand being made by them upon manufacturers for merchandise.

The rush for American pottery during January will be heavy. That buyers will be in the market early is not denied by the manufacturers, as they will aim to have their requirements specified early. Future business with all American pottery manufacturers is heavy. Orders are now in file for shipping during every month in the new year; shipments for the first quarter of the year are of course predominating just now. However, shipments wanted during the second quarter of the year are by no means small, while orders for third and fourth quarter will increase rapidly when the January orders of the buyers are totaled.

Production is now uppermost in the minds of the plant managers thruout the country. This is only possible

thru the individual effort of the pottery employes. In every general ware plant in the country work is plentiful and steady, and the statement that a shortage of skilled potters exists is nothing but fact.

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Glass and Pottery Exposition Open January 6

About twenty-five pottery manufacturers will exhibit their lines at Pittsburgh during January, or during the life of the Glass and Pottery Exposition, which will open at the Fort Pitt Hotel, Pittsburgh, January 6. Many of the new dinner shapes which manufacturers have developed during the last five months will be shown during the exhibit season for the first time. In all, the 1920 exposition will be the largest of its character ever arranged by these manufacturers, and it is the opinion of the trade that the volume of orders that will be placed by visiting buyers will exceed all previous records.

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New McNicol Plant Ready to Fire Kilns

Shipments of ware from the new ten-kiln plant of the D. E. McNicol Pottery Co., in East Liverpool, O., will start early in January. Yellow and Rockingham ware will be the sole product of this pottery. Clay shops have been placed in operation, and as early as possible kilns will be fired. By starting this plant, the center of the yellow ware business has been again placed within the East Liverpool district. The McNicol company now has thirteen kilns engaged in yellow ware exclusively while their white ware business is taken care of by the production of their East Liverpool, and Clarksburg, W. Va., plants.

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Cartwright Pottery Making Improvements

A new office and sample room is to be built at the Cartwright Bros. pottery in East Liverpool. This task has been started, and at the same time important improvements are being made in other departments. The decorating shop which has been under lease by Hoyt Bros. will be taken over by the Cartwright firm January 1, and will be under the management of Robert Parker, formerly with the Taylor, Smith & Taylor Pottery Co., at Chester, W. Va. Many improvements and additions are being made in the decorating department of this plant.

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Potters Feel Both Coal and Gas Shortage

The loss in kiln production in all potteries in the Eastern Ohio and West Virginia territory during the last fortnight has been very heavy. For over a week not a kiln was lighted in this particular territory. Practically every kiln in the potteries concerned has been filled, kiln doors built up and prepared for firing at the first opportunity. This kiln loss will be reflected in slow shipments, as the manufacturers have been unable to obtain ware on account of the fuel shortage. Both coal and gas has been short.

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Headquarters Established, Work Begun

Construction work is well under way on the new porcelain plant of the Mitchell-Bissell Co., on Brunswick Avenue, Trenton, N. J. Two one-story buildings will be erected at a cost of \$50,000. The plant will be equipped for the manufacture of porcelain textile guides, including different specialties heretofore only produced in Germany.

Headquarters of the company are at 251-55 Fourth Avenue, New York, and for some time past a portion of the Cook Pottery, Prospect Street, Trenton, has been occupied by this company for its manufacture. This present works will be removed to the new plant upon completion, and the capacity greatly increased.

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Potters Annual Meeting in N. Y. January 6-7

All arrangements for the annual meeting of the United States Potters' Association, which will be held in the Hotel Astor, New York City, January 6 and 7 have been completed. President Charles L. Sebring, of the Sebring Pottery Co., will be succeeded in that office by William L. Smith Jr., of the Taylor, Smith & Taylor Pottery Co., of Chester, W. Va. Charles F. Goodwin, secretary, will be re-elected. One of the salient features of the meeting this term will be the detailed report of the Labor Committee, of which W. E. Wells, of the Homer Laughlin China Co., Newell, W. Va., is chairman. This report will deal with the result of and discussions resulting from the joint wage conference with representatives of the National Brotherhood of Operative Potters at Atlantic City late in the summer.

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Trenton Pottery Prospects Very Bright

The potteries at Trenton, N. J., while planning to curtail operations when fuel restrictions were announced had no more than made arrangements when the ban was removed, and accordingly operations have been going ahead at the regular status. The majority of the plants are quite well supplied with fuel, such as it is, and there is but little difficulty anticipated on this score. Production is holding at a high point; potteries of all kinds are just about as busy as they care to be, and advance orders assure capacity output thruout the coming year. The prospects for 1920 are wonderfully bright.

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Pottery Class Conducted at College

A course in vocational pottery is being given in the applied art department of the College of Industrial Arts, Denton, Tex., under the direction of Miss Mattie Lee Lacy, of the New York State School of Clayworking and Ceramics. Texas clays are being used exclusively by the students of this course. The forms are made by coiling rolls of moist clay into the desired shape, by using plaster molds, or by throwing and twining the clay on the potter's wheel. Another new feature of this work is that the students are preparing their own glazes. After the glaze is applied, the piece of work is again placed in the kiln and fired, thus the whole process of pottery manufacture is done in the class room.

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Hoffman Goes With Trenton Potteries Co.

Under date of December 15, the Trenton (N. J.) Potteries Co. announce the appointment of Mr. George E. Hoffman as sales manager of the company.

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Josiah Wedgwood & Sons, Inc. of America, New York, has been incorporated with a capital of \$75,000 to manufacture pottery, china and kindred ceramic wares. The incorporators are: K. L. Wedgwood, White Plains, N. Y.; H. Howson, and L. V. Haynes, 102 Hale Avenue, Brooklyn

The SUPERINTENDENT

Helpful Hints for Practical Men Whose Problem is Maximum Production With Minimum Cost

Burning Costs With Oil and Coal

Altho no coal crisis is affecting the industry at the present moment, the results of the recent strike are still being felt. The question of burning oil instead of coal for instance, is a very live subject now. As stated in this department in the December 16 issue, several plants have already changed over to the use of this fuel for burning kilns, and many are contemplating following suit.

The burning of oil in the plant is a source of great convenience, but very few clay plant owners have any ideas as to how to make a comparison between the advantages of burning with coal and oil. In fact, we are of the opinion that some plants have the wrong conception of what the relative costs of burning with oil and coal are.

In this connection, interesting figures are obtained when calculations are made and the results compared. A barrel of fuel oil contains forty-two gallons and weighs from 310 to 336 pounds. Six cents a gallon is a very conservative price for fuel oil at the present writing, and it shows tendencies of going up still further in price.

In order to compare prices on a common basis, the price of oil at six cents per gallon may be changed to the cost of a ton of oil according to the following formula:

2,000 (lbs. per ton)

$$\frac{2,000 \text{ (lbs. per ton)}}{7.5 \text{ (wt. per gal. of oil)}} = 266.6 \text{ gals. per ton} \times 6c \text{ per gals.} = \$15.99 \text{ (price per ton of oil)}$$

With oil giving 19,000 (a liberal figure) B. t. u. per pound, the net B. t. u. for one cent obtained from oil under these conditions would be:

$$19,000 \text{ B. t. u.} \times 2,000 \text{ (lbs. in ton)}$$

$$= 23,765 \text{ net B. t. u. for}$$

$$\frac{\$15.99 \text{ (cost of one ton of oil)}}{\text{one cent.}}$$

This figure of 23,765 is then a basic figure to use in comparing oil with coal upon a price-per ton basis. The following formula shows the method of figuring and arriving at results.

$$\text{B. t. u. as received in coal} \times 2,000 \text{ (lbs. in ton)}$$

$$= \text{Price}$$

$$\frac{23765 \text{ Net B. t. u. for One Cent for Oil}}{\text{minus } \frac{1}{2} \text{ of ash content in coal expressed in cents.}}$$

For oil at 6 cents per gallon (it is more than 10 cents today) the following table shows what the various coals will have to cost per ton before the two fuels will be at par in costs:

ILLINOIS COALS

		Moisture	Ash	Dry B. t. u.	B. t. u. As Rec'd	Price for Coal
Sangamon Co.....	Screenings	14.00	17.00	11700	10062	\$ 8.383
Sangamon Co.....	No. 3 Washed Nut.....	9.75	11.22	12544	11321	9.471
Fulton Co.....	Screenings	12.30	21.00	11163	9790	8.134
Franklin Co.....	No. 2 Nut.....	6.50	10.50	13000	12155	10.175
Franklin Co.....	Screenings	9.50	13.00	12600	11403	9.531
Jackson Co.....	Screenings	10.00	10.00	13150	11835	9.909
Perry Co.....	Screenings	10.50	14.00	12250	10964	9.156
Saline Co.....	Screenings	7.00	13.00	12650	11765	9.835
Williamson Co.....	Screenings	10.00	14.00	12425	11183	9.341

INDIANA COALS

		Moisture	Ash	Dry B. t. u.	B. t. u. As Rec'd	Price for Coal
Green Co.....	Seam No. 4 Screenings.....	12.0	12.0	12700	11176	\$ 9.345
Knox Co.....	Seam No. 5 Screenings.....	10.5	13.6	12370	11071	9.249
Pike Co.....	Seam No. 5 Screenings.....	11.0	13.8	12375	11014	9.199
Sullivan Co.....	Seam No. 5 Screenings.....	11.5	16.0	12100	10709	8.932
Vermillion Co.....	Seam No. 4 Screenings.....	11.7	11.5	12895	11386	9.524
Vigo Co.....	Seam No. 5 Screenings.....	9.5	17.0	11900	10770	8.975

OHIO COALS

		Moisture	Ash	Dry B. t. u.	B. t. u. As Rec'd	Price for Coal
Hocking Screenings		7.00	13.00	12300	11439	\$ 9.561
Pittsburgh Screenings		5.00	10.50	13150	12493	10.460

PENNSYLVANIA COALS

		Moisture	Ash	Dry B. t. u.	B. t. u. As Rec'd	Price for Coal
Somerset Co ..	Youngstown Screenings	2.50	10.64	13547	13208	\$11.062
	Mine-run	3.09	11.69	13853	13425	11.240

WEST VIRGINIA COALS

		Moisture	Ash	Dry B. t. u.	B. t. u. As Rec'd	Price for Coal
Splint Screenings		2.85	7.60	14070	13669	\$11.465
Poca, M. R.		2.56	7.00	14709	14333	12.026
Island Creek, Nut and Slack.....		2.29	6.50	14199	13874	11.642

KENTUCKY COALS

		Moisture	Ash	Dry B. t. u.	B. t. u. As Rec'd	Price for Coal
Bell Co.....	Nut and Slack.....	3.50	8.50	13800	13317	\$11.164
Hopkins Co.....	Nut, Pea and Slack.....	5.60	12.50	12500	11925	9.592

The figures so obtained by using this formula are then the prices that could be paid for coal at the plant when oil costs six cents per gallon. In a table published in connection with this item, are a few analyses of coal and the price that could be obtained for it by following the method of figuring as just explained.

In all of the above, it must be kept in mind, of course, that the comparisons are upon heat content only and do not take into consideration plant performance. Oil has certain advantages such as requiring less labor in burning, better control in firing, shorter burns, easier to work with, etc.

Using the figures given in the accompanying table, and assuming that the average clay plant uses twenty-five tons of coal a day we can make an approximate comparison between coal and oil. If we take \$8.00 (which is using a number lower than the lowest figure in this table) as the cost of coal per ton, that would give the equivalent heat value to a barrel of oil, for the same amount of money with oil at six cents a gallon; and, assuming that the average clay plant pays \$4.00 per ton coal which is a very liberal figure, we find that the difference in cost (in terms of heat value) between coal and oil is \$4.00 for each ton of coal burned in favor of coal.

Now if twenty-five tons of coal are used each day in firing kilns, the extra cost per day in firing with oil would be $25 \times \$4.00 = \100.00 . By firing with coal perhaps four more men would be required on the pay roll to empty the cars, distribute the coal, haul away the ashes, etc. Assuming that these men would be paid \$5.00 a day in wages the total extra cost in using coal because of extra wages would be \$20.00. This would cut down the excess cost of burning with oil to \$80.00.

Again, assuming that the average kiln is under fire for five days, and that by using oil you will be able to cut down the burning period one day, the saving of one day's burning expenses would be \$100.00, but the extra cost of burning with oil would be $4 \text{ (days)} \times \80.00 (which is the excess cost of burning with oil as figured above) = \$320.00, which exceeds the saving of \$100.00 made by cutting one day in burning by \$220.00.

The increased quality of ware and other features obtained by burning with oil would hardly warrant the increase in cost that results. The figures used in the calculation are all very liberal toward oil, and in most cases the difference in cost would be much greater than shown above.

By using your own fuel data in place of the figures shown above, it is possible for you to calculate your own costs in using coal or oil.

However, we believe that the figures show plainly that the use of fuel oil in place of coal in territories in close proximity of the coal fields, is out of the question. In very removed sections where the freight rates bring up the cost of coal considerably, such as in the West, oil may be the more economical fuel.

* * *

A Way to Cool Hot Boxes

Hot boxes on machines may usually be attributed to carelessness somewhere. Frequently it is caused by too little oil, shaft out of line, or need of rebabbiting and in each instance the matter should, upon discovery, be immediately attended to. However, when a journal box runs hot, it is not always convenient to stop the machine, but the box must by all means be cooled or damage is likely to result.

The pouring of cold water on the affected part in all probability would help some, but another remedy which is claimed by some to be much better is to pour on the bearings, a mixture made of one-third to one-half parts of ammonia and the remainder salt water. Because of rapid evaporation the ammonia dispels the heat units and the box will cool reasonably quick while running.

Because it is a known fact that salt water aids rusting it is advisable in all cases to wipe off the machinery with waste saturated with oil as soon as the machine is stopped.

* * *

Labor Sees the Light

Passing over its stout insistence on rights which no one denies, and its effort to interpret the Constitution of the United States, the statement issued by the convention of labor and affiliated organizations at Washington contains one highly constructive suggestion, and, happily, one on which all are agreed, namely, the urgent need of increased production. The annual report of the Secretary of Labor presses the same point, which manufacturers' associations of all kinds have been insistently urging for more than a year.

Here, then, is a point on which all "groups" are agreed. The Government (which, in our country, is the only true representative of the public), the employer, and labor all see in an increase of production the cure of our most acute evils.

* * *

Putting the Horse Ahead of the Load

When we place prices ahead of production we are putting the cart ahead of the horse. Prices is the cart and production is the horse that draws the load. If we look after the production prices will take care of themselves, while if we interfere with prices we may stop production. The reason for all this is that high prices stimulate production, increase the supply of goods and thus automatically usher in lower prices. That is why an economist said that the remedy for high prices is higher prices. On the other hand if we force down prices arbitrarily, we will discourage production and cause a shortage of goods and still higher prices.

Prices are really only the thermometer that shows the condition of business. High prices indicate relatively low production to the demand while low prices indicate high production. The price thermometer now registers 100 degrees in the shade, but we cannot cool the air by breaking the thermometer.—Homer Hoyt, Professor of Economics, Delaware College, in "The Nation's Business."

* * *

"Sell Wrist Watch and Buy An Alarm Clock"

A young man returned from service overseas asked a neighbor of mine what he should do to get right into the thick of this reconstruction business. To which the horny-handed farmer gave this laconic and trenchant answer: "Sell your wrist watch and buy an alarm clock." And I venture to assert that one might write volumes upon volumes and not say half so much. What we need most today is simply something to wake us up. We don't need to watch the passing of time to know when to quit work or to go to sleep. Quit when we have done all we can for one day, and kind nature will take care of the sleeping. The alarm clock will do the rest.—The Valve World.

IN *the* WAKE *of the* NEWS

Being a Brief Mention of a Host of Interesting Happenings in the Varied Fields of the Clayworking Industry

Will Spend Winter in St. Petersburg

H. E. Taylor, president of the Kankakee (Ill.) Tile & Brick Co. will spend the winter in St. Petersburg, Fla., driving in his own car from Jacksonville to St. Petersburg.

A Bouncing Baby Boy for Xmas Cheer

H. F. Kemper, of the Independent Brick & Tile Co., Cleveland, Ohio, had to double up on his cigar passing about Christmas time. The other reason was the arrival of Robert James on December 14. You know the smile that won't come off; it's over in "THE" Arcade.

H. F. White Goes With Alliance Brick Co.

H. F. White, who has been salesmanager of the brick department of the Hocking Valley Products Co., of Columbus, for the past four years and who has been with the company for seven years, has resigned to become assistant manager of the Alliance (Ohio) Brick Co., effective the first of the year. Mr. White will specialize in the sales department, but will also be in touch with production. He will be succeeded as salesmanager of the Hocking Valley Products Co. by John T. Baker, who has been a salesman

in the department for more than a year. The Alliance Brick Co. is building a new face brick plant which will have a capacity of about 9,000,000 a year which will increase the output of the plant about 75 per cent. It is expected to have the new plant completed by midsummer. A dinner complimenting Mr. White was given by the brick fraternity of Columbus just previous to his leaving.

Death Calls Two Well-Known Ceramic Men

Charles U. Thrall, Tottenville, Staten Island, N. Y., assistant to the vice-president at Plant No. 2 of the Atlantic Terra Cotta Co., Perth Amboy, N. J., died at his home on Amboy Road, December 21, aged 50 years.

Charles A. Moore, chief engineer of the Joseph Dixon Crucible Co., Jersey City, N. J., died at his home in that city on December 5.

Estimate San Francisco 1920 New Construction at \$150,000,000—Big Year Ahead

The building program which is forecasted for San Francisco is of great interest to the manufacturers of brick and other clay building materials, for it is said that this city will lead the entire Pacific Coast in new building construction for the year of 1920. According to advance figures gathered from various available channels by those in touch with building operations, one hundred and fifty million dollars is thought to be a conservative estimate of the cost of new construction work which will be under way in the coast cities during next year. Nearly one-half of this sum, it is said, will be spent in San Francisco and the bay region. A number of office buildings are scheduled for erection in 1920, among which will be the Balfour-Guthrie building of fifteen stories on the southeast corner of California and Sansome streets and another building of similar height to go up on the site of the old Nevada block at Montgomery and Pine streets. It is expected, also, that preliminary work will be started on the new Crocker estate building which will be between twenty-five and thirty-five stories in height. Four new theaters are planned which will total about \$4,000,000. They are a new home for the Orpheum which will cost in the neighborhood of \$1,000,000; a seven-story office and theater building at Market and Taylor streets; a "class A" theater to occupy part of the Prager department store property at Market and Jones and a large motion picture house in the Mission district. In addition to these a number of alterations are being planned and an \$800,000 Orpheum building for Oakland, Cal.

Apartment houses, too, will be built in good numbers. Owners who have hesitated to build during the past year or two on account of the high cost of material and labor are now convinced that there is to be no appreciable drop in prices. Two large apartment buildings of the community type are promised for 1920. One which is being designed by Architect G. A. Applegarth will be fifteen stories high and will occupy a marine-view site at Larkin and Francisco streets. The other will be erected at Hyde and Filbert streets according to plans drawn by Architect T. Patterson Ross and will cost about \$350,000.

CONVENTIONS IN PROSPECT

January 20, 21 and 22—Canadian National Clay Products Association, Prince George Hotel, Toronto, Ont.

January 22—Oregon Clayworker's Association, Portland, Ore.

February 3 and 4—Sand Lime Brick Association, Lafayette Hotel, Buffalo, N. Y.

February 3, 4 and 5—Nebraska Brick and Tile Association, Lincoln Hotel, Lincoln, Nebr.

February 12 and 13—Wisconsin Clay Manufacturers' Association, Republican House, Milwaukee, Wis.

February 16, 17 and 18—Common Brick Manufacturers' Association of America, Deshler Hotel, Columbus, Ohio.

February 18, 19 and 20—National Brick Manufacturers' Association, Deshler Hotel, Columbus, Ohio.

February 23, 24, 25 and 26—American Ceramic Society, Bellevue-Stratford Hotel, Philadelphia, Pa.

Naturally, this class of building construction will create a heavy demand for brick and other clay products and along with the present assured business, local offices of brick manufacturers are figuring ahead for the new season and looking forward to a year of big business.

New General Manager for Los Angeles Firm

The well known plant of the Los Angeles (Cal.) Pressed Brick Co. has witnessed much activity in various lines of endeavor in recent months. There is a very good demand for all lines of clay products used in building construction and it seems that all Pacific Coast plants are far behind on orders for terra cotta, hollow tile, common and face brick. New improvements have been made at the Los Angeles plant by permitting better light in the factory thru the provision of ten sky lights for the terra cotta department. An additional terra cotta kiln has just been completed and other minor changes and improvements made. However, the most important change has been in the personnel—an entire new factory organization which is more progressive and modern in ideas, viewpoints, as well as having new men in the organization combining both technical and practical experience. A very good team has been built from the above combination which promises to turn out a greater production.

The addition of one of the most popular and experienced men in the building business on the Pacific Coast has recently been made to the office force. This person, who is Fred A. Harrison, has enjoyed a wide and thoro experience denied most men in the clay products business. Briefly, he has been in the building profession for twenty-five years beginning as a carpenter in Pontiac, Mich., soon graduating to a carpenter contractor, and later coming to the Coast where he became identified with Parkinson and Borgstrom, architects of Los Angeles. Mr. Harrison filled the most important position as superintendent for the above firm and was with them for nine years altogether. Later he took charge of the one-half million dollar skyscraper for the Los Angeles Investment Co., and upon completion of the same, built the Trinity Auditorium and hotel. Still later he became associated with the leading contracting firm of Southern California—C. J. Rubach Construction Co. Mr. Harrison has been with the Los Angeles Pressed Brick Co. for one year and recently been made general manager of the company.

The Los Angeles Pressed Brick Co. has been spending about \$1,000 monthly in newspaper advertising, educating the public to the advantages of hollow tile construction, with very good results.

Tries to Forestall Natural Gas Shortage

The American Encaustic Tiling Co., of Vernon, Cal., has applied to the State Railroad Commission for an order classifying the tile plant as a preferred industry in the use of natural gas. The company contends that gas is the only fuel it can use in the making of tile. Fred O. Slasor, the factory manager, declared that the application was made in order to forestall any possible shortage.

Will Report on Revised Specifications

President Boyle Workman of the Los Angeles City Council has named a committee which is to investigate and report on the revised specifications submitted by the City Engineer for the use of clay pipe in the construction of sanitary sewers. The men of the committee are Councilmen Criswell, Wheeler, Fleming, Langdon and Conaway.

Will Establish Plant to Make Chrome Brick

It is expected that Wellington Hull, of Boston, Mass., will arrive at San Luis Obispo, Cal., shortly when definite plans will be outlined for the establishment of a plant for the manufacture of chrome brick. The work is to be done, it is said, under a process patented by George C. Langley, of Los Osos, Cal.

Modesto Votes \$289,000 Bond Issue

It is anticipated that a large amount of brick and other clay material will be used in Modesto, Cal., within a short time, for a recent bond issue of \$289,000 was voted for municipal improvements including storm and sanitary sewers, liquifying sewage tanks, etc.

Construction Work Hitting "Top Pace"

Building construction work has commenced to hit a "top pace" at Wilmington, Del. and vicinity and the outlook for a good year to come is most encouraging. From figures compiled by the local building department for the month of November, it is shown that a new record has been established, operations in this time reaching an aggregate of \$1,423,193. The bulk of the work, with the exception of a large bank and office building, covers new dwellings and other housing operations, and this phase of construction is taking on an important status. With the turn of the year, it is expected that a number of important projects will mature, and in this connection plans are now under way for the erection of a new brick and terra cotta theater at 806-10 Market Street, to cost about \$500,000; the structure will be erected by the Wilmington Theater Corporation. Building material interests are busy thruout this district and the one handicap in the situation at the present time is the indication of a little shortage of certain basic commodities, particularly clay products, as the winter advances.

New brick school buildings will go forward in different parts of Delaware early in the New Year under a great impetus, and these structures are likely to make a particularly heavy call on the brick and hollow tile market. No less than ten large school buildings of this type are projected, ranging from a new high school at Milford, to cost about \$200,000, a similar building at Lewis, estimated to cost \$300,000, to smaller structures at Sanford and Wyoming to cost from \$35,000 upwards. Guilbert & Betelle, architects, 665 Broad Street, Newark, N. J., will prepare plans for the majority of these schools.

Prices Holding Firm at Wilmington

The building material market at Wilmington, Del., shows no signs of any recession; things are moving at a pretty high level as regards the call for materials, and prices hold firm. Good hard common brick is now selling for around \$20 and \$21 per thousand, delivered on the job, and the indications are that these quotations will advance after the turn of the year. Hollow building tile, clay tile partition, drain tile, sewer pipe and other burned clay products are in active call, with prices well stabilized at existing levels.

To Operate Plastic Clay Properties

The Wagoner Dry Pressed Brick Mining Co., Wilmington, Del., has been incorporated with a capital of \$75,000 to operate plastic clay properties and to manufacture high grade brick. L. A. Irwin, M. L. Rogers and William G. Singer, Wilmington, are the local incorporators.

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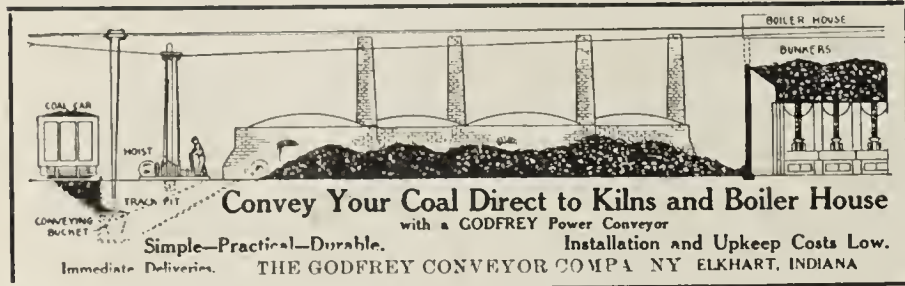
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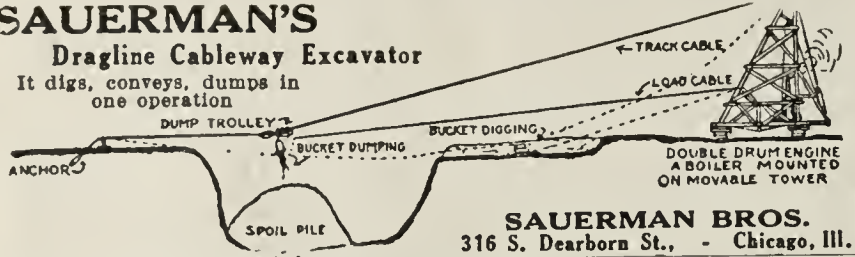
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Gamble-Stockton Co. Buys Georgia Plant

The Gamble-Stockton Co., of Jacksonville, Fla., has completed a deal whereby it purchased a large brickmaking plant at Columbus, Ga. The consideration is said to be about \$210,000. The new owners plan to manufacture high grade brick and interlocking tile at the plant for Florida trade. They will invest several thousand dollars in improving and adding facilities to the plant.

Fire Destroys Murphysboro Office Building

Fire of unknown origin did considerable damage to the offices of the Murphysboro (Ill.) Paving Brick Co. Only three walls of the office building were left standing and all its contents, excepting valuable papers kept in the vault, were destroyed by the fire. The plant had been closed several days for repairs and overhauling of the machinery, but the destruction of the office will not interfere any with operations, which will continue while a new office is being built.

Begin Work on New Brick Factory

Work has been started on the Best Brick Co.'s new plant which is to be built on a site near the factory of the Standard Brick Co., in Evansville, Ind. The plant, it is reported, will be the first Evansville concern to turn out brick with gas-fired kilns. The company will erect six kilns, a dry shed and a machinery shed. All of the units will be of brick and work on the foundations will begin at once. W. P. Wood, one of the directors of the company, states the plant will be in operation by the first of March. It will manufacture a high grade rugby face brick. Columbus Self is superintendent of the plant.

Veedersburg Plant Increases Capital

The Veedersburg (Ind.) Brick Co. has increased its capital stock from \$50,000 to \$80,000.

Ballou Brick Co. Newly Incorporated

The Ballou Brick Co., of Sioux City, Ia., has filed articles of incorporation with the secretary of state. The concern is capitalized at \$200,000. B. W. Ballou is president; I. R. Samport, vice-president and D. P. Mahoney, secretary and treasurer. Mr. Ballou is at present interested in the Reliance Brick Co. and Mr. Mahoney has been in the brick manufacturing business at Sioux City for years. It is understood that the new company will take over one of the present plants at Sioux City.

Enlarging Plant and Adding New Kilns

The Pittsburg (Kans.) Clay Products Co. has purchased the plant of the Pittsburg Pottery Co., located at that city, and is incorporating for \$100,000. The company will make this plant one of the best and most complete in the country. They have on the site of their plant a thick vein of light smooth clay which, after having been thru a very thorough test, proved to be superior to clays in many other fields.

The Pittsburg company is enlarging its plant by building additional kilns, packing room and store rooms and when completed will have a plant which will compare favorably with any other plant of this kind anywhere.

They manufacture all kinds of flower pots, milk crocks and jars, churns, combinettes, cuspidors and all other stoneware.

Louisville Clay Plants Resume Activity

Jobbers and dealers in brick report that they are far behind on deliveries, and unable to secure enough brick to keep work going now in hand, much less take any new brick business except for far future delivery. Stocks have never been lower than they are right now. However, weather conditions and coal permitting, there are a lot of plants which will not be closed this winter for repairs, as they made their repairs while out of fuel.

The P. Bannon Pipe Co. has started operations again in its pipe plant, and also started the brick and hollow tile plant, and expects to go right on thru unless the weather becomes much worse than it is at the present time.

The Southern Brick & Tile Co. has filled up nearly all of its kilns with green brick while awaiting fuel, and has an empty yard at the present time. It is expecting deliveries on purchased coal soon and will shortly have a large supply of common and face brick on hand for spring trade.

Local brick men report that the fourteen per cent. increase, which was granted the miners, and which was contained in their coal contracts, has resulted in coal deliveries on such contracts costing around twenty-two cents per ton more than the original contract price in many instances.

The Progress Pressed Brick Co. is burning its last kiln of the year, and the main plant is down for repairs. The company has about a half million brick on hand, and expects to get started again about the first of the year, with orders on hand to run steadily for several weeks.

Deliveries have been checked somewhat by the general shortage of cement, lime, steel and general building supplies, which is holding back work. Near zero weather, and sleety rains have checked some work in the open.

Slump In December Building Permits

There has been a big slump in building permits for December in Louisville, Ky., as compared with November due to colder weather and poor deliveries, which is checking things somewhat. For the first two weeks of November 61 permits were issued for work costing \$251,100, while for the same period of December, only forty-eight permits totalling \$98,775 were issued. Prospects for spring are very bright, but operations will not get well started before about March.

Ky. Coal Production Only 60% of Normal

With all fuel regulations off the Kentucky brick manufacturers are again getting busy with production, as the demand is heavy, and supplies on hand are generally light. Today it is merely a question of being able to place coal orders, and secure shipments, but that isn't easy as production in the Kentucky fields is not much better than sixty per cent. of normal due to general dissatisfaction over the wage agreement, car shortage, etc. There is a strong chance that the miners' trouble may flare up again, as the operators claim they were not considered in the fourteen per cent. wage agreement, and are not satisfied. The operators have also refused to recognize the coal miners' unions, and are justified in their position. The Kentucky operators, with but few exceptions, have always run open shops, have refused to check off miners' union dues, assessments, etc., and during the war period made an agreement with the Government as to the wage scale, not with the miners. Even this agreement was torn up when the miners struck in October, whereas the agreement had until March, 1920, to run. The miners claim that they are being locked out, as the companies will only deal with them as individuals. The companies are willing to ar-



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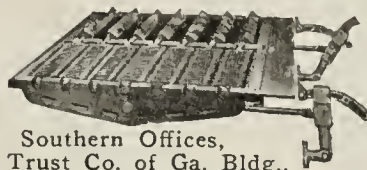
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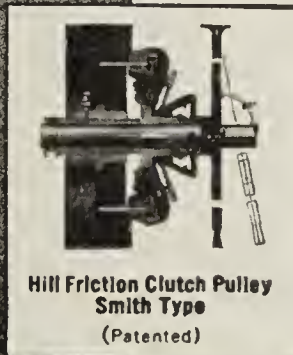
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Portable Model 322, High Resistance Type with internal compensator is especially desirable for Brick Kiln temperatures. May we quote on your equipment?

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THE BRISTOL COMPANY Waterbury, Conn.

EXCAVATION

GEO. B. MASSEY CO.

Consulting Engineers

Machinery and Methods.
Recommendations for Reducing
Operating Costs.
Properties Examined, Mapped and
Reported.
Inspection, Appraisal.

PEOPLES GAS BUILDING
CHICAGO

They Drill Big Blast Holes

at the plant of the Kansas Buff Brick & Manufacturing Co., Buffville, Kansas.

They say:

"It has cut the labor and fuel bill about 60%, and the powder bill about 50%. It paid for itself in the first three months; it saves enough powder each year to more than pay for its initial cost."

This is interesting because it is a fact.

Write for literature on Big Blast Hole Drilling

The Sanderson Cyclone Drill Co.
No. 5 Columbus Circle
New York City
Orrville, Ohio

BRODERICK & BASCOM ROPE CO.

SAINT LOUIS, MO.

Manufacturers of

B. & B. WIRE ROPE

AND

Aerial Tramways
For Economical Haulage



A28

bitrate and recognize collective bargaining, but with their own employees only, and not with union leaders. Today the entire argument is over the closed shop and recognition of union matters.

Again Operating Both Plants

The Louisville (Ky.) Fire Brick Works is again operating both of its plants full time, and has a good deal of business on its books. The general embargo on the C. & O. lines, affecting its Eastern Kentucky plant, has been lifted.

New Work in Baltimore Looms Big for 1920

Its the same story in the Baltimore district—building, and more building. Things are going strong in this direction, those in the trade are on edge and there is a keenness to the movement that is bringing great interest and attention. New work for the New Year looms big; those well informed are of the belief that a record-breaking twelve months are on the way, and there is no really distressing factor at the present time to stop the movement. It's a case of "Go" and this with a real vim and determination. Each week is bringing new projects to light, and these of substantial account. The new housing plans took definite form early in December, and in one day no less than 30 permits were applied for at the building department for such number of new homes, 15 to be of two-story, brick type, located on Chelton Avenue, costing about \$45,000; and 14 of one-story brick bungalow design, to be built on Ethelbert Avenue at a cost of about \$37,000. Incidentally, this indicates in a forceful way, the great popularity of brick for dwelling work in this city, for out of a total of 30 homes, 29 are of this character. Bids will soon be asked for the erection of a new three-story, brick apartment house at Thirty-fourth and St. Paul Streets, for the Fenway Apartment Co., to cost about \$500,000.

Taken as a whole, the industries of Baltimore, Md., have not been affected very much by the coal shortage prevalent in other parts of the country, and building material producers, brick yards, etc., have proceeded with production just about in the regular way. The situation at the present time is still showing greater improvement, and this city evidently is one of the few which is not "worrying" very much; some plants have from three to six months' supply of fuel on hand.

New Interests to Participate Only

In contradiction of the rather widely circulated report that the Baltimore (Md.) Brick Co. had been sold, Warren Griffiss, general manager, has made a statement saying: "The present management has invited in new interests to participate with it, and which will result in material benefit in handling the business of the company. The output at the plant will be largely increased and all requirements for brick will be fully and promptly met." Details of the new working arrangement are now being perfected. The company has outstanding at the present time \$1,000,000 in bonds, \$1,500,000 in preferred stock and a like amount in common stock. Its properties include a large tract of valuable lands, totaling over 700 acres, and a number of brick manufacturing plants. These yards in normal times have an approximate annual output of 150,000,000 brick, but in recent years considerable curtailment has been necessary in production due to the war and other industrial conditions. With the bright outlook for the coming year, it is proposed to develop a considerable increased capacity over that heretofore prevailing, or in excess of 100,000,000 brick.

Carroll Van Ness is president of the company; Charles H. Cromwell, vice-president; and J. Guild Cook, secretary and treasurer. Offices are maintained in the Maryland Trust Building.

Price of Partition Tile Advances

The demand for common brick and burned clay building specialties is well to the forefront in the matter of call in the Baltimore, Md. district, and if the call continues at the present status, as now expected, a shortage in stocks will not be surprising as the winter season advances. Good hard common brick is now selling locally around \$20 and \$21 per thousand. Fire brick has topped the \$71 mark in certain quarters, delivered on the job, and there is an increasing call for this material, as well as other refractory products. Partition tile has advanced to \$135 and \$140 per thousand for the popular sizes of 3 x 12 x 12 in. and 4 x 12 x 12 in., respectively. Flue lining, drain tile and other miscellaneous clay goods are prominent in call. Terra cotta specialties and face brick continue active, and high grade varieties of the latter are none too easy to obtain. Dealers are keeping their eyes on available stocks, and orders are being placed well in advance.

No Brick Shortage in Springfield

Russell A. Bailey, treasurer of the Springfield (Mass.) Brick Co., and vice-president of the Massachusetts Brick Manufacturers' Association, believes there is no cause for alarm as to a possible shortage of brick in his city as has been expressed in some quarters, or that the price is likely to reach \$30 in the near future. Mr. Bailey admitted in a statement published recently in the Springfield "Republican" that a genuine shortage existed in some other New England cities but said that his concern had 2,000,000 brick on hand and expected to be able to meet all requirements until the manufacturing can be started again in the spring. "For 30 years," says Mr. Bailey, "it has been the policy of the Springfield Brick Co. to have an ample supply of brick on hand 365 days of the year and we won't fail our customers now." Mr. Bailey's statement was brought out by an item published in the Springfield paper in which certain building contractors were quoted as charging a brick monopoly in Springfield with consequent high prices and the prospect of a retarding of building operations. Mr. Bailey denied these charges.

Holyoke Has Supply of About Six Million

Conservative estimates of the amount of brick available in the several yards in the vicinity of Holyoke, Mass., where building operations are going forward rapidly, place the number at from five to six million. There are six brick yards in the immediate vicinity of Holyoke. Whether the present supply will be sufficient to meet the demand until the yards can resume making in the spring is considered doubtful as a large amount of the building is planned to begin immediately when weather conditions permit. Holyoke contains many large apartment houses in which brick is the most used material.

St. Louis Plants Again Producing

The clay products and glass plants in St. Louis and vicinity which were shut down by the coal shortage have all reopened and are operating. Virtually all employees who were dis-



"LOXALL" Popular Hollow Tile

is being licensed to manufacturers in the U. S. A. and Canada. It has earned the title of "Popular Tile" because it is easy to make, lay and sell, and is liked by the

Builder, the Mason and the Manufacturer.

If you are interested in this money making proposition, get in touch with us at once.

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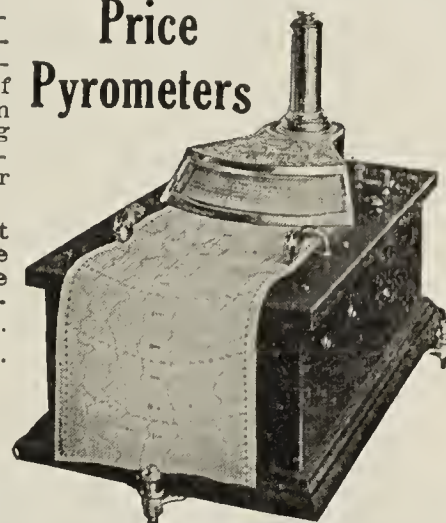
Price Pyrometers

By giving burners an accurate control over temperatures, and helping to prevent useless shoveling of coal, Price Pyrometers in many plants are saving tons of coal. These instruments have repaid their first cost long ago.

There are other important advantages in using Price Pyrometers. We will be pleased to explain these advantages to you in detail. Ask us. Catalog on request.

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A Tank You Can Trust

You don't have to keep your eye on a Caldwell Cypress Tank. You need have no fear of breakage or leaks. It's like a good workman—on the job and giving honest service every day in the year.

Because the Caldwell Tank is built of the highest grade materials according to engineering principles by experienced tank builders who realize that a good tank is more than a carpenter's job. As a guarantee against leakage, every joint is machine-planed with full bearing and the hoops are spaced so that no hoop is over-stressed.

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Hollow Interlocking Brick.

A face brick and a backing all in one.

Non-continuous mortar joints. Have the appearance of solid face brick.

License granted to manufacturers in United States & Canada.

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We Can Save You Time, Money and Trouble on Fire Brick

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Freight Rates on all R.R.'s in UNITED STATES and CANADA

A Trial Shipment Will Convince You. Write Us

ALSEY BRICK & TILE COMPANY
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missed during that period are back at work and while none of the plants are producing at full capacity, conditions are improving more quickly than was expected and manufacturers expect to be back to a normal working basis within two weeks. Coal is still difficult to procure in quantity and manufacturers are unable to obtain at all times the grade of coal they desire. While no figures are at hand, it is generally said that the clay products industry was harder hit by the coal crisis than any other of the so-called non-essential industries as it was the first to shut down on a general scale. Moreover the shut down was more costly to clay products manufacturers; others were able to suspend and resume operation without entailing serious financial loss. Manufacturers do not intend to ease down on their output, banking on the timeliness of a big future stock.

Plan Large Improvements for Early Spring

Wm. H. Shaw reports that the Great Falls (Mont.) Brick & Tile Co. have had a very good year in the face brick and building tile lines. The company has several good orders on its books to fill this winter or early spring and considers the outlook for the coming year extremely bright. The Great Falls company is planning to make improvements to the extent of twelve or fifteen thousand dollars on the plant in the early spring.

N. J. Construction Continues to "Hit Hard"

Building construction in New Jersey continues to "hit hard." The turn of the year shows no noticeable departure from the activity which has been prevailing for months past, and 1920 looks decidedly bright in prospects. All branches of the trade are active—manufacturers, dealers, contractors and so on, and the call for new buildings holds strong. In all parts of the state practically parallel conditions maintain, and there is hardly a city or town reporting any decrease. At Newark, Jersey City, Paterson, Morristown and other points in northern New Jersey; Trenton, Camden and vicinity; New Brunswick, Perth Amboy, and shore resorts to the south, building operations are going forward with a defined speed and regularity. There is no thought of a decline in prices of burned clay and other basic building commodities—rather, an intention to secure the material while it is available, for present indications point to a little shortage of stocks as the winter season advances. Again, the weather as a whole has been most favorable for active construction, and a seven-day week for the building trades is prevailing in certain sections. Taking the state as a whole, housing operations are the big feature, but considering various cities individually, as Newark, and other industrial places, factory and warehouse work takes a prominent position. Architects and engineers report no lax in the preparation of plans for new buildings for the coming year, and with the holidays past, some "real happenings" are destined to ensue. The healthy condition of the industry in this state is highly encouraging to those in the trade, and it is only here and there that one hears a murmur of complaint—the big men anticipate big times, and every indication points to a full realization during the next twelve months.

Thruout the Newark district, including the Oranges, Bloomfield, Montclair and other points, construction matters are moving at a lively pace. The building permits from week to week are swelling the totals rapidly, and there is a keen call for burned clay products of all kinds, with brick, of course, well in the lead. The popularity of this material never

"We use the babbitting over again and do the work ourselves"

"Have been using Nonpareil Anti-Friction Metal for many years, but at first only for babbitting shafting boxes at Dry Press Brick Works. Later tried it for babbitting clay grinder rolls, where we used Bronze metal. Find that it does as well and lasts as long as the Bronze. The Bronze boxes we had to have made, and when they were worn out, had to discard what was left to the scrap pile. Now whenever boxes have to be renewed, we can use what is left of the Nonpareil metal over again and do the work ourselves." We've got some mighty interesting and valuable data for you. Write us. Trial order solicited.

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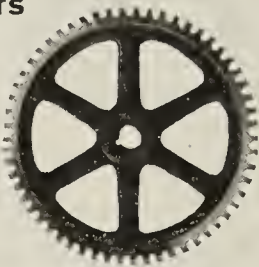
UNION STEEL CHAINS
CAST TOOTH SPROCKETS
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Over 40 different sizes and types of steel chains to fit standard sprockets 1-in. pitch and larger. Special Chains up to 1,000,000 lbs. ultimate strength.

They've Chained Many a Plant to Prosperity

THE UNION CHAIN & MFG. CO.
SEVILLE, OHIO

ROLLER CHAINS
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B-G PORTABLE CONVEYORS



helped the Superior Sand Co., of New Lexington, Ohio, to cut their handling costs from 10c to 1/2c per ton of sand. B-G Conveyors perform equally as well for many others. Watch for our full page advertisements in each ALTERNATE ISSUE.

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ALLIED ALLIED CONSTRUCTION MACHINERY CORPORATION ALLIED
120 Broadway New York, U.S.A.

wanes—it is in constant call. Industrially, this section is going ahead in a big way, not only in Newark proper, but at Harrison, Bloomfield and vicinity.

Demand Destined To Exceed Supply

The market for burned clay and other building materials in New Jersey shows no let-up in volume of demand. The call is firm, and prices ditto—more so, probably than might be anticipated at this season of the year when things are expected to slacken a little. Common brick continues on the high wave of popularity, with prices trending upwards. At Newark the wholesale price is now over the \$20 mark, while on the job, from \$24 to \$25 is asked for first grade stock, and this, incidentally, is none too easy to secure; at Jersey City, Hoboken and vicinity, the quotation holds at \$25 per thousand delivered on the job, and a similar figure prevails in the southern part of the state. At Trenton and vicinity, the price is around \$22. It is currently stated by those in the trade that higher figures can be looked for before the winter is over; the fuel situation is not at all encouraging and production with all-year plants is being curtailed on this account. Moreover, the demand is destined to exceed the supply before many weeks.

In the matter of hollow tile, drain tile, sewer pipe and other burned clay specialties, there is a strong, healthy call in the different important sections of New Jersey. Clay tile partition is also in good demand with prices at a higher level; 3x12x12-inch and 4x12x12-inch sizes are now selling around \$140 a thousand, delivered, at Newark and vicinity. Face brick has made a few slight advances during the past fortnight, and good varieties are in popular call. Fire brick and other refractories are experiencing a keener demand and present levels are very firm; from \$63 per thousand upwards is now asked for No. 1 standard in different parts of the state. The next few months are expected to usher in an increasing demand for refractory materials, as this is the season when power and boiler plants of all kinds undergo repairs.

Winter Brick Rather Scarce

Brick plants at Hackensack, N. J., are "off" for the season; stacking and cleaning up work is under way, and advance preparations being made for next season's run. The supply of winter brick is none too plentiful hereabouts, and a number of the yards will likely be sold out before new material is manufactured. While some of the yards look deserted, this is not quite the case, for in active management and preparation of forthcoming plans, considerable thought and attention is being given. The price of brick wholesale in this section is from \$18 to \$19 per thousand. The Little Ferry district is taking a prominent position in the brick industry hereabouts, with such yards as the Hackensack Brick Co., Henry Gardner and the Mehrhof Brick Co.

Sneyd Plant Running on "High"

The Sneyd Enameled Brick Co., New York Avenue, Trenton, N. J., is maintaining production at a high status, and under the able management of Charles T. H. Phillips, head of the company, is constantly increasing the efficiency of the plant. A large part of the output is devoted to fire brick and shapes, and only the best quality material is manufactured. The majority of potteries in the Trenton section have become customers of this company for high grade refractories, and a fine trade has been developed in this direction. In the enameled brick line, the company manufactures a product



GOOD material and workmanship alone are not responsible for the fine record of Conkey Dryer Cars.

No car, however well put together, can stand the destructive influence of alternate heating and cooling unless individually designed for such trying conditions.

Conkey Dryer Cars are making good because they have these essentials—correct designing for individual plants, best material and superior workmanship.

Our engineers will be pleased to help you. Write to

H. D. Conkey & Company
Mendota, Ill.

You can get a higher price for your brick if you guarantee it will be

Scum-Proof

And you can do this with perfect safety by using

R. H. Precipitated Carbonate of Barytes

It neutralizes the salt in your clay so that it cannot appear on the surface of the brick after it gets wet.

But don't accept a substitute—insist on R. H.—the dependable brand.

Write for circular and prices.

The Roessler & Hasslacher Chemical Company

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Chicago, Ill.
Cincinnati, O.
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St. Louis, Mo.
Kansas City, Mo.
San Francisco, Cal.

Philadelphia, Pa.
Boston, Mass.
New Orleans, La.

We carry a complete line of high grade chemicals for the clay industry

40,000% PROFIT

Enormous Profits in Stopping Belt Slip



Ever hear of anybody making 40,000 per cent profit on Wall Street? We haven't.

Well, this is the way you can do it: One man kept his belt in a slipless condition with Cling-Surface for over 8 years at an average cost of 27 cents per year. Based on the formula published in our ad in the "Brick and Clay Record" last month, the annual saving was \$108.

$108 \div 0.27 = 400 = 40,000$ per cent profit.

Every user of Cling-Surface is making similar profits. It is impossible to do otherwise.

In order to save \$108 anywhere else the average business man would perhaps spend \$90 or \$100. Why should belt users, then, hesitate to spend 27 cents to save \$108?

But the "beauty of it" is—that isn't all. The profits are even greater. When a belt stops slipping it lasts longer. Belt wear is due entirely to friction—internal or external. So, although these additional profits depend entirely upon conditions, doesn't it seem possible that the final profit may be 50,000 per cent or even more?

Cling-Surface keeps belts in NATURAL condition. It makes and keeps them pliable and "grippy" without making them the least bit sticky. It PENETRATES the belt, surrounds, lubricates, and thus protects every tiny fibre. Cling-Surface is the logical, proper treatment that every belt man should apply to stop slip, save belts, save power, increase output, and save much money.



Write TODAY for a 50-lb. can. Use one month. If results aren't satisfactory return the remainder at our entire expense.

CLING-SURFACE COMPANY
1029 NIAGARA STREET
BUFFALO, N. Y.

that is "par excellence" and which will well hold its own in comparison with other high grade material of this character. New Jersey plastic clays are used for a large part of production, and fine storage facilities for winter service are available; a network of steam lines has been installed in this department to keep the raw material dry during inclement weather.

Special Noon-Day Gatherings Scheduled

The Manufacturers' Council of New Jersey, with which many clay and ceramic interests are affiliated, held a short business session and luncheon at the Robert Trcat Hotel, Newark, N. J., on December 10, with Warren C. King, president, presiding. The meeting was one of the most important noon-day gatherings held by the organization. Among the speakers were Senator Walter E. Edge, Honorable Percy H. Stewart, and Honorable Wesley A. O'Leary. The subject of vocational education for the young men in the high schools of the state came in for a considerable share of attention. It is planned to hold council luncheons of this nature during the months of October, December, February and April of each year.

Coal Situation Still Serious in N. J.

The coal situation in New Jersey is none too encouraging, and different ceramic plants are facing a shortage. The fuel as offered, on the other hand, is not of best grade, but to be sure, it is better than nothing. Prices have gone skyward. For instance, a brick plant at Trenton has been forced to pay over \$900 for two carloads—the fuel had to be had, or the plant would have shut down, so what else could be done? This price was about double the prevailing rate in this section. In the Raritan River section, like difficulty is prevalent in the matter of securing good coal; tile and ceramic ware plants in this district are confidently trusting for a rapid change in the situation, to insure operations at desired status and "peace in mind."

Clay Mining Operations Slacken

Operations in clay mining are decreasing a little in the Raritan River section of New Jersey with the advent of the real winter season. The majority of the plants do but little during the cold weather, as it is far too expensive to attempt to work up production under such handicaps. The past season has been a good one in many respects; the well known plastic clays from this district have been in firm demand, and had labor been available in sufficient quantity greater output would have ensued. The McHose Clay Co., one of the active producers of this place, is curtailing operations for the winter months.

Floor Tile Plant Has Big Volume of Orders

The Old Bridge (N. J.) Enameled Brick & Tile Co. is operating at capacity and reports a good volume of orders for future deliveries. The company is devoting a large part of operations to the production of floor tile and the call for this material is far in excess of the present supply. Good labor, particularly girls for assembling work, is very difficult to secure. Under normal conditions the company gives employment to more than 250 operatives.

Plans To Extend and Increase Operations

The Zenitherm Co., Newark, N. J., manufacturers of insulation products for refractory linings, is now occupying new offices, recently leased, at 50 East Forty-second Street. The



A "Columbus" Unloading Coal at the Plant of the Poston Paving Brick Co.

Unloading Materials at Minimum Cost

By "minimum cost" we mean three cents per ton. Any company that pays more than that to unload coal, sand, gravel, crushed stone or coke, needs a

Columbus Automatic Car Unloader

We have helped many companies who had unloading problems, but who did not know it until they learned the real economies provided by our system.

Perhaps we can help you.

Write for our Catalog anyway.

The Columbus Conveyor Company
Columbus, Ohio

company has taken over part of the former Government property in the Raritan River section, for proposed expansion. Plans are under way for an extension in different specialties and increased operations.

To Erect Two New Kilns

The Trenton (N. J.) Fire Clay & Porcelain Co. is planning for the erection of an addition to its plant, including the construction of two new kilns. New storage facilities will also be provided, as well as rest rooms for the women employees. William A. Klemann, Trenton, is architect for the work.

1920 To Be a "Record Breaker" In New York

There is sort of a happy attitude in New York construction circles. The tone is optimistic, for the New Year bids fair to be a "record breaker" in the matter of new building operations. At the present time, the volume of work on hand insures maximum activities thruout the winter season and well in to the spring months of 1920, while the advance work for next spring and summer makes this coming season loom as the best ever experienced in the trade. The call upon building material dealers at the present time is strong, so much so that advance orders for future deliveries are being taken; present stocks are none too large and there is "not enough to go round" of all important commodities. New projects are coming to light from week to week, and the work, collectively and in some cases individually, involves millions of dollars.

There is no let-up in the demand for brick and burned clay products and basic building commodities of all nature are moving under a rapid trend. Prices hold very firm, and while there has been no primary advance in quotations on burned clay specialties during the past fortnight, other products, such as sand, gravel, etc., have moved upwards, indicating the general trend of affairs. The common brick market is very active, with a price of \$20 per thousand quoted for good Hudson River common, wholesale, alongside dock; this is bringing a figure of around \$22.50 for the material, delivered on the job. Second-hand brick has now moved to a higher point than the quotations for new stock a few weeks ago, the prevailing price being \$17 per load of 1,500. The barge loads from Hudson River yards received during the earlier weeks of December have now all been absorbed, and there is a literal "scramble" for desirable brick. The fact that the Hudson River is now practically closed to navigation from points above Newburgh, is bringing a little "pinch" to the situation, with the result that stocks are being more tightly held and quotations as high as \$22.50 per thousand are heard in certain quarters. There is but little question that new high levels can be expected for common brick in the local market before the winter is passed.

Face brick is in good demand with prices holding at from \$35 to \$50 per thousand for regular standard varieties. Colonials are being sold for around \$27 per thousand, delivered on the job. Interior partition tile is operating under an active call, with price range from \$63.75 for 2x12x12 in., to \$153 per thousand sq. ft., for 6x12x12 in., delivered. Fire brick is coming into more active call, with price around \$75 per thousand. Sewer pipe, drain tile and flue lining are keeping a good step in the matter of call with other burned clay goods.

New Tile Craft Incorporation

The Studios of Tile Craft, Inc., Brooklyn, N. Y., has been incorporated with a capital of \$50,000 to operate a plant in

Type "B" $\frac{3}{4}$ cu. yd. ERIE Shovel owned by McCrady Bros., Braddock, Pa.



"Very stiff clay, 750 cu. yds. a day"

We have loaded, on the average, 750 cu. yds. of very stiff clay per ten-hour day.

We prefer the ERIE to any other shovel we have ever used. In our opinion the ERIE has everything else of her size beat a mile."—McCrady Bros., Braddock, Pa.

The ERIE Shovel is both speedy and reliable.

It is built far stronger than the usual standard of steam-shovel construction.

We would like to send you a bulletin showing just what the ERIE Shovel can do. Write for a copy of Bulletin "W."



BALL ENGINE CO., Erie, Pa.

Builders of ERIE Steam Shovels and Locomotive Cranes, ERIE Railway-Ditchers, BALL Engines.

ERIE Revolving Shovels



Light steel rails

We saved the day for the Clay and Coal Operators in War Times by furnishing BUCKEYE MINE RAILS, whenever and wherever needed, and while many other Steel Mills were running exclusively on other material, you could not have operated without us at that time.

Now, in Times of Peace, we ask that you do not forget us, as we can, and will render the same unexcelled service, and furnish the same high quality of material. "Buckeye means best", and BUCKEYE LIGHT STEEL RAILS are better still. All sections from 12 lb. to 40 lb. inclusive always in stock for quick shipment.

Let us have your inquiries, and we will take the chance of developing them into orders on our books.

THE BUCKEYE ROLLING MILL COMPANY
STEUBENVILLE, OHIO



A Pump is only as serviceable as the valve you put into it

A man must be sure of his valve because no other part of a pump gets greater wear. And nothing will cause it to go 'dead' and become ineffective quicker than a defective valve. The fact that it works out of sight, too, makes it absolutely necessary to put in a pump valve that you know is reliable.

Jenkins Pump Valves have proved their worth by actual performance. It is a reason for their extensive use.

Jenkins Pump Valves are made in several compounds—each compounded to meet the conditions of some particular service.

Know genuine Jenkins Pump Valves, too, by the Jenkins "Diamond Mark."

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Rollin's Barium Carbonate

"We find that the use of Barium not only entirely eliminates the scum caused by sulphates, but deeper and richer colors result than would be expected." So writes a clay products company in Kentucky.

It is obvious to any clay products manufacturer that Barium Carbonate added to the pug mill or to the dry pan will produce brick and tile that command a higher price. It will build up more business than an inferior product which is "off color" and marred by white streaks.

Barium Carbonate makes the salt glaze stick to sewer pipe.

We can show you how the appearance of your ware can be improved, and can give you names of clay concerns who are profiting today by the use of Barium.

Write Us NOW

Rollin Chemical Corp.

EQUITABLE BUILDING

120 Broadway, New York City

this district for the manufacture of tile and pottery products. A. F. McCabe, 19 Tompkins Place; H. A. Black, 274 St. Johns Place; and F. H. Butehorn, 748 St. Johns Place, are the incorporators.

Large Capital for Proposed Expansion

The Ward Leonard Electric Co., Mount Vernon, N. Y., manufacturer of electrical porcelain specialties, has been reorganized with an active capital of \$147,000, for proposed expansion. The company does a large business in vitreous enamel preserves and insulation products, being one of the leading concerns in this line in the New York district.

Elkin Has Newly Incorporated Brick Co.

The Poindexter Brick Co. has been incorporated at Elkin, N. C., to manufacture and sell brick, with an authorized capital stock of \$15,000, of which amount \$6,500 is paid in by R. L. Poindexter, J. W. Ring, A. Chatham Jr. and J. F. Harden, all of Elkin.

Erecting Brick and Tile Plant at Kenmare

It is reported that machinery of the latest pattern for making hollow-tile for building purposes, is being erected at Kenmare, N. D. The same plant will also make pressed brick and drain tile. The plant is being erected by a Dayton, Ohio concern, it is stated.

New Ohio Concern Buys Hallwood Stock

The Shale Brick Co., of Columbus, chartered with a capital of \$100,000, has purchased the stock of the Hallwood Brick & Tile Co., which has been operating a large common brick plant on Seventeenth Avenue. The incorporators of the new company are: W. T. Brown, W. C. Gager, L. R. Haag, R. M. Barrett and E. Terry. The company will soon organize for business. S. A. Booker has been put in charge of the plant as superintendent. Work of building a continuous kiln with 20 chambers will be started at once to be a companion of the present kiln. This will practically double the capacity of the plant. The offices of the company will be in the Brunson Building.

Prices Continue Firm in Columbus

There is a strong demand for common brick in Columbus territory and prices continue firm. For wire-cut common brick the prevailing price is \$21, while mud brick are selling in the neighborhood of \$18. All common brick factories are getting ready to increase their output in order to take care of the demand.

Annual Meeting of Builders' Exchanges

The Columbus Builders and Traders' Exchange is planning to send a large delegation to attend the annual meeting of the National Association of Builders' Exchanges at Indianapolis, January 12 to 15. Because of the many important subjects to be discussed with reference to laws influencing the building trades which are pending in a number of state legislatures, the annual convention will be held in January instead of February, as has been the custom. The first annual meeting of the National Association of Building Trade Employers will be held in Indianapolis at the same time.

Electric Machinery for Stone Creek Plant

The newly organized Stone Creek (Ohio) Brick Co., reported in the December 2 issue of *Brick and Clay Record*, is planning to erect an entirely new plant to manufacture red and white face brick, according to D. G. Moomaw, who also stated that the company is capitalized at \$250,000, and will install electrical machinery. The capacity of the plant will be 50,000 to 75,000 brick per day.

E. E. Hollenback Succeeds O. W. Ketcham

O. W. Ketcham, head of the terra cotta and brick company of that name, 24 South Seventh Street, Philadelphia, has been succeeded as president of the Master Builders' Exchange by Edwin E. Hollenback, a prominent building contractor in this city and in close contact with affairs in the trade. In discussing the outlook regarding building materials, Mr. Hollenback says that the scarcity of basic commodities is felt more in the clay products line than in any other. Manufacturers must have fuel to burn their wares, and many of them have had to curtail operations to a large extent on account of the coal shortage; others have been forced to practically shut down. Never has there been such a demand as we have seen for months past for brick and hollow tile; the supply for many sizes of blocks of hollow tile has been so completely absorbed as to make it impossible to secure them at any price. The same condition, it was pointed out, applies to brick. Certain kinds and colors are out of the market entirely at the present time and there is no real prospect of any great improvement in the future. A rough estimate of brick of all kinds needed for the early spring business would be from 30,000,000 to 40,000,000, and at least half as much more in bulk of hollow tile. Unless the most unexpected happens, we must be prepared to face a condition of the greatest scarcity.

1920 Holds Great Promise for Quaker City

Philadelphia, Pa., is coming more into her own these days in the matter of building construction, and after a period of quietude in the early fall months, the winter season is moving along in a most propitious way. The record month of November, chronicled in the December 16 issue of *Brick and Clay Record*, is being duplicated to a large degree by December, and when the figures are officially compiled for this month, they are sure to swell the total. Industrially, the city is moving ahead in a big way, and a number of important factory projects are now under way; housing work, also, is coming in for strong attention and two and three-story dwellings are being erected in good variety. The bulk of construction is utilizing brick and other burned clay products, which are very popular in this section, and the ruling tendency is for fireproof buildings. Among the important operations to develop during the past fortnight may be mentioned a new publication building for the "Public Ledger," to be located on the block bounded by Sixth, Seventh, Chestnut and Sansom Streets; it will be ten-story, brick and terra cotta, 230 x 385 ft., and is estimated to cost \$5,000,000. A new hollow tile and steel parochial school will be built at Sanger and Jackson Streets, 63 x 122 ft., to cost close to \$75,000. The Fidelity Trust Co. is having plans prepared for the erection of a new brick and steel bank and office building, thirty-five stories, at Broad and Walnut Streets, to cost about \$7,000,000; while the Philadelphia Rubber Co., Land Title Building, is planning for the erection of a new plant to cost about \$1,000,000. This shows the trend of affairs in this district and illustrates why the material dealers and manufacturers are finding things coming their way with a vim. The amount of work

Perforated Steel Screens

Of Every Description

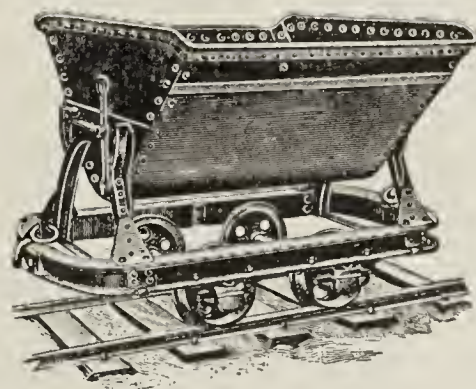
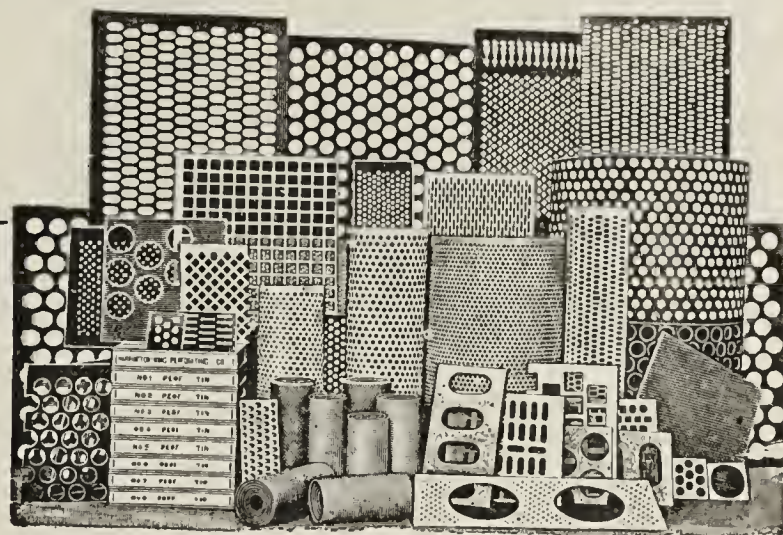
For Screening Clay, Shale, Sand,
Gravel, Stone and Cement

No Other Screens Will Give You Equal Capacity,
Durability and Satisfaction

The Harrington & King Perforating Co.

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The important fact is that Biehl Cars embody perfections gained from 60 years' experience.

Biehl standard type cars have made good on countless jobs. For that reason they deserve your earnest consideration.

If yours is an extraordinary problem, our engineers will be pleased to design special cars and equipment for you. Write them. Catalog No. 8c is off the press, and is chock full of ideas. May we send you a copy?

Just drop us a card

THE BIEHL IRON WORKS, Inc.

Office and Works, Reading, Pa.

Branch Office: Detroit, Mich., 725 Ford Bldg.

Wolham, Bates & Goode, Inc.
17 Battery Place, New York City

Joseph M. Brown & Co.,
Peoples Gas Bldg., Chicago

We specialize in steel car wheels

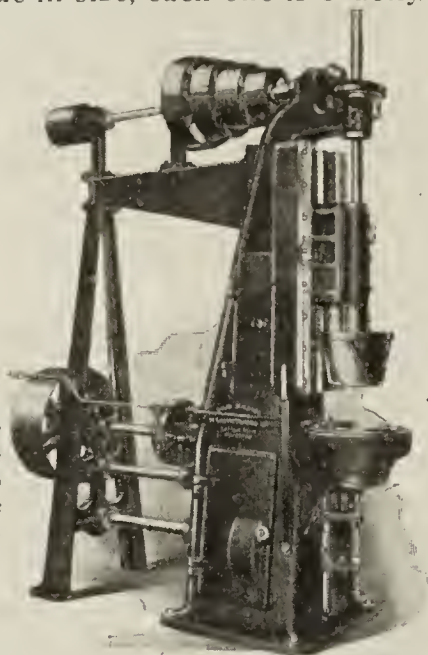


THERE is big money in the manufacture of Flower Pots, Stone Ware, Sleeves, Nozzles, Insulators, etc.—if you have the right kind of moulding machine.

One manufacturer who purchased a Baird Pottery Machine about eight years ago, and another machine two years later, reports that both were "a success from the start."

"The nicest part of this business is that all these pots are uniform and true in size, each one is exactly the same weight, which makes it much more convenient in stacking and burning the pots than it would be if these pots were made on the older style machines or made by hand."

The Baird Machine has speed, can be operated by any ordinary workman, and costs little in power, oil, and grease to operate. Let us tell you what other manufacturers in your line of business are doing to add to their profit with one or more of these machines.



*Send Along a Sample
of Your Clay*

BAIRD MACHINE & MFG. CO.
265-69 Jefferson Avenue E., Detroit, Mich.

in sight is tremendous and the New Year holds great promise for the Quaker City.

Pa. Clay Club Holds Important Meeting

About 40 important brick manufacturers of the Pittsburgh district agreed to an advertising levy of five cents a thousand on their output for the next three years, in conformity with a plan put to them in mid-December by officers of the Common Brick Manufacturers' Association of America. The decision was reached at a meeting of the Pennsylvania Clay Club in the Fort Pitt Hotel, at Pittsburgh. Manufacturers from as far east as Altoona, and west to the Ohio state line attended the meeting, which was the largest, in point of attendance, held by the club in its history. The speakers were President Schlake, of the Common Brick Manufacturers' Association, and Secretary Stoddard, of that body. Both spoke of the work of the association they represent, and particularly of its advertising campaign to impress upon public consciousness the advantages of brick over other building materials. At the conclusion of the two addresses, there was a round table discussion, in the course of which the members expressed themselves as in accord with the aims of the association. T. E. Wilson, president of the club, presided.

Building Addition to Dillsburg Plant

The Pennsylvania Products Co., Dillsburg, Pa., manufacturer of clay products, has commenced the construction of an addition to its plant, about 100 ft. long, for storage and other service. The company is also building a new track from its clay properties along the South Mountain to the plant at Dillsburg.

Lancaster Incorporation to Build Plant

The Lancaster (Pa.) Brick Co. has been incorporated with a capital of \$200,000 by W. W. Posey, A. C. Scully, John J. Evans, F. L. Suter, and Henry Boetcher. It is reported the company will erect a large plant on the Harrisburg Pike.

Incorporated to Mine for Clay

The American Ball Clay Co. has been incorporated at Philadelphia, Pa. to mine for clay and other mineral substances. The capital of the concern is listed at \$500,000 and the incorporators are E. W. Sharp, E. A. Powell and C. W. Gouert, all of Philadelphia.

Amends Charter to Increase Capital

The Norfolk (Va.) Pressed Brick Co. Inc. has amended its charter, increasing its capital stock from \$10,000 to \$25,000. W. A. Rountree is president of the company and J. C. Smith, secretary.

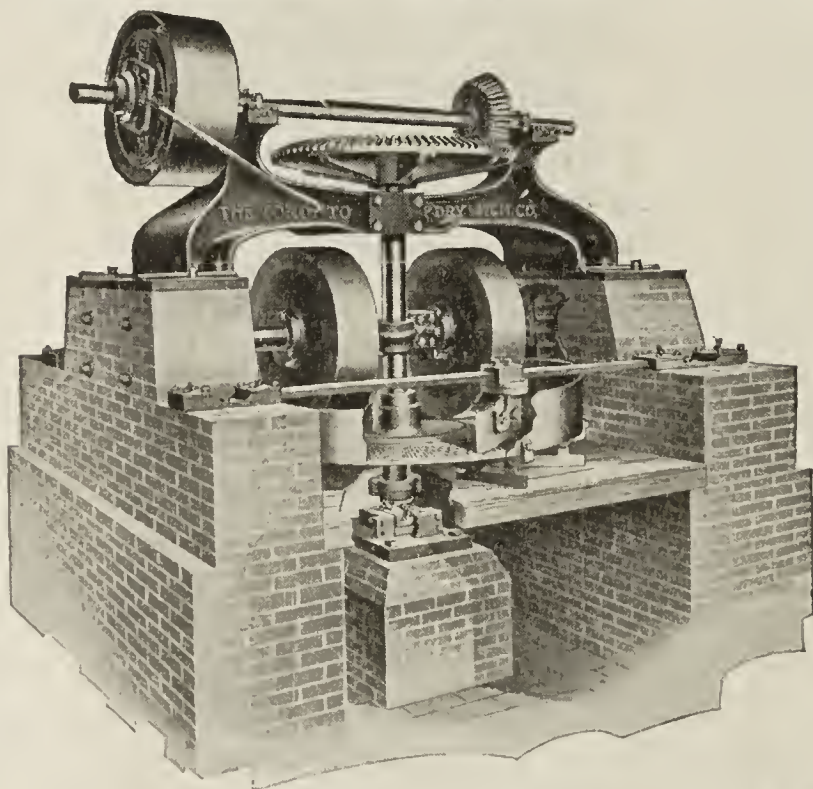
Johnson City Men Form Brick Company

The Johnson City Shale Brick Corporation has been incorporated at Bristol, Va., with a capital of \$200,000, by George W. Hardin, president and L. H. Shumate, secretary, both of Johnson City.

Gas Line Accident Closes One Kiln

At the height of the bitter cold period just preceding Christmas, two accidents occurred on the gas lines of the Manufacturers' Heat & Light Co. in the Western Pennsylvania and West Virginia section, and brick plants were

THE MEANS GRINDING PANS



For Grinding Wet, Semi-Dry and Dry materials. Made in sizes adopted by the best judges. We are in position to solve your grinding problems.

**SINGLE, DUPLEX OR BATTERY INSTALLATIONS OF
8, 9 AND 10 FOOT PANS.**

Write for Descriptive matter and prices on Pans. Also Bulletins on Sewer Pipe and Tile Presses, Elevating and Conveying Machinery, Trucks, Barrows and other equipment for the clay products manufacturer.

THE TORONTO FOUNDRY & MACHINE CO.
Toronto, Ohio

General Office - - - - - Pittsburgh, Pa.
Factory - - - - - New Galilee, Pa.

Says Greaves - Walker:

"There is no other part of a clay plant that requires as much care and thought in its design and construction as does the dryer" (CLAY PLANT CONSTRUCTION AND OPERATION).

This is one reason why all

"HURRICANE"

Automatic Stove Rooms and Mangles for Clay and Porcelain

are designed for individual plants.

Individually designed dryers result in greater uniformity of drying and greater uniformity of shrinkage—better ware.

They reduce floor space. They reduce the number of moulds, labor, etc. from 50% to 75%. An equally large reduction in drying time.

These and many other advantages of our installations we will be pleased to explain. Let our engineering department help you with advice and suggestions. No obligation. Circulars describing and illustrating "HURRICANE" Stove Rooms and Mangles will be cheerfully sent you on request. Ask for copies.

Automatic and Truck Systems

The Philadelphia Drying Machinery Co.

Stokley St. above Westmoreland

Philadelphia, Pa.



Delivery End of Automatic Stove Room,
Buffalo Pottery, Buffalo, N. Y.

60x60 ft. with tile floor under which the steam piping is located for drying the brick after they come from the molds. The kilns for burning are located near the drying room. At present two are in operation, one of 50 tons and one of 60 tons. Two others of 60 tons' capacity each will be completed at an early date. The present output of the factory is about 300 tons per month, but this will be doubled at an early date.

By February 1 the Citadel Brick & Paving Block Co., Quebec, expects to have completed a large addition to its factory at Bois Chatel near Montmorency Falls, which will increase the annual output of brick from eighteen to thirty-five million. They are adding to their present battery of three kilns, four round down-draft brick kilns of 100,000 brick capacity each, these all being connected together according to the Minter system and equipped with electric motors and fans for artificial draft. To their system of dryers they are adding twelve 110-foot waste heat dryer tunnels with capacity of drying 40,000 brick per 24 hours. These dryers are equipped with electric motors, fans, etc., and will be among the most up-to-date dryers in the country. The company is also putting in additional machinery to take care of increased production, such as heavy duty dry pans for pulverizing shale, single roll crushers for crushing shale, new Freese cone-clutch, wire-cut brick machine, new pug mills, etc. When all these improvements are carried out, the plant will be producing 10,000,000 high-grade rustic face brick, 25,000,000 builders' shale brick and 1,000,000 sq. ft. of hollow ware a year. The cost of enlargement will be about \$110,000.

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Women Increasing in British Industries—More Labor Than Jobs

The American Chamber of Commerce in London says that the great increase in the number of women employed in British industries has become an important factor, and only an expansion in industry can take care of all the labor, both male and female, now available.

In a recent speech on the industrial outlook Sir Auckland Geddes, president of the Board of Trade, declared that the country's production would have to be increased, not only for the sake of export markets, but to absorb surplus labor.

According to his figures, says the American Chamber in London, there are already over 300,000 more men and women employed, or looking for employment, in the industrial world than before the war. The demobilization of troops would necessitate the absorption of almost another million. War losses of life had been more than counterbalanced by the stoppage of emigration for the five war years, and the fall in the value of money made it essential that many who had previously lived as dependents should now find work. Industry must expand if all were to be taken care of.

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Pottery Imports—New York

The imports of pottery wares at New York during the month of October at the Port of New York, have just been announced by the local officials. These for china ware products are as follows:

China, plain—total \$23,546. Principal shipments were received from: Germany, \$13,791; France, \$6,926; and Japan, \$2,101.

China, decorated—total, \$215,574. The largest shipments

were from: Japan, \$59,162; Hong Kong, \$7,404; England, \$16,517; France, \$61,727; Germany, \$69,647; and China, \$676.

Earthenware, plain—total, \$3,478. The principal countries making shipments were: England, \$1,702; and Japan, \$1,412.

Earthenware, decorated—total, \$90,639. Primary shipments were received from: England, \$59,536; Japan, \$22,977; Germany, \$3,364; Netherlands, \$3,398; and Italy, \$1,054.

All other Earthenware—total, \$5,757. Principal shipments were from: England, \$3,597; Germany, \$1,524; and French Africa, \$457.

The imports of china clay for this month from England aggregated 5,830 tons, with valuation of \$71,280; and of all other clays, from this same source, 507 tons, with valuation of \$3,669.

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Greater Attention Now Given Ceramic Arts

The School of Clay-Working and Ceramics, Alfred University, Alfred, N. Y., reports a considerable growth in the number of students registered at the institution for the present year. It is held that this increase is due to the greater prominence and attention now being given to the ceramic arts. It is proposed to enhance the school work when the present drive for a \$1,000,000 endowment fund at the school has been successfully achieved. The department is under the direction of Professor Charles F. Binns.

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Iowa State College Advising Farmers to Buy Drain Tile Early

If contemplating the installation of tile this spring, farmers will find it advisable to place their orders at once, according to A. W. Turner of the agricultural engineering extension department of the Iowa State College.

Practically all of the clay products companies have sold their output until late in the spring. Most of the concrete and smaller concerns are only a month behind the large clay products companies in their sales.

Prices of tile have advanced about 25 per cent., but the high cost is not stopping the farmer from putting in more tile.

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The Salesman Who Cannot Keep From Getting "Sore" Does Not Last Long—It Is Necessary to "Hold In"

It is very hard at times to keep from showing vexation at the manner displayed by a customer.

It is sometimes discouraging to have him dispute your statements; especially when you know that you are in the right.

But no matter how impolite your customer may act—no matter how disagreeable his manner may be—don't show him that his actions are working upon your nerves.

Let him bring up his objections and then skillfully overcome them in such a manner that he is unconsciously brought to see your point of view.

Don't argue with him. The rules of debate do not apply in business.

The loss of your temper will invariably mean the loss of a sale.

While self-control enables one to use courtesy and tact—two very important factors in bringing about a sale.—*The Salt Seller.*

BUCYRUS



For Digging Shale

The massive construction and great power which are found combined in

BUCYRUS STEAM SHOVELS

have made them famous the world over for long life, economic operation, high steady output and power.

Let our representative tell you what type shovel is best suited to your conditions.

- 110-C—3½ to 6 cubic yd.
- 103-C—3½ to 5 cubic yd.
- 88-C—3 to 4 cubic yd.
- 78-C—2½ to 3½ cubic yd.
- 68-C—2½ cubic yd.

Also all sizes of revolving shovels and dragline excavators.

Send for Bulletin AB

BUCYRUS COMPANY SOUTH MILWAUKEE, WIS.

New York, Chicago, Cleveland, Birmingham, Minneapolis, Denver, Portland, Ore., San Francisco
Salt Lake City



"The SSS Special" Automatic Soft Mud Brick Machine



WE manufacture the most complete line of Soft Mud Brick Machinery in the world and can meet the requirements of any size yard, from the smallest to the largest. Let us quote you on your new machinery.

The Arnold-Creager Co.
New London, Ohio

Q U E S T I O N S

A Two Cent Stamp May Bring
You Advice That Will Stop
a Waste, Improve Your Ware
or Lower Your Production Cost

How Clay is Distributed in Storage

929. *Utah*—In a recent issue of "Brick and Clay Record" there appeared an article entitled: "Where a Lesson in Clay Manufacture May Be Learned." You partly describe a system of conveying and spreading ground clay one-quarter inch thick over the storage room. Can you tell me how the conveyor is propelled to travel forward and back the length of the room slowly and the conveyor belt be driven at the proper speed while the machine is in motion?

The device to which you refer is known as a tripper and is operated by the conveyor belt itself. A rod set at a certain point engages a lever on the tripper when the latter machine travels to that point and causes a change of position of the lever, which causes a change in direction of travel of the tripper. Another one of these rods is placed on the other end of the track and acts in the same manner. In this way the tripper can be operated to travel between any two points any distance apart by setting these rods at the proper points. It also spreads an even amount of material over the entire length of the storage pile.

* * *

Furnace Blocks Spall in Arches

928. *Washington*—We are making fire brick arch blocks 7x8x9x13½, for boiler settings, and find many spalling off when used in the arches, under a temperature of 3100 deg. Fahr. The brick do not fuse, but persist in spalling. We have tried 40 to 60 per cent. grog to stop this, but with little success. These blocks are hand molded, the fire clay and grog being mixed in a wet pan. Can you suggest any press or method that would stop this defect in this block?

The cause for fire brick spalling may be due to the fact that the expansion of one or more of the ingredients in your body causes a split. This may be overcome by reducing the shrinkage of the ingredients by precalcination. If your grog is in the form of flint clay it would probably be very wise for you to calcine it before using.

Another cause for spalling may be due to too dense a structure of the finished product. In this case a large percentage of grog is desirable to produce a more porous structure in the block.

To withstand sudden changes in temperature without shattering, a coarse open texture and homogeneity are necessary. The texture, however, is more a function of the fineness of grinding of the flint clay or grog portion of the mix than of the clay itself, but it nevertheless has its effect upon the durability of the product in service. Burned clay, being a comparatively poor conductor of heat, a brick on being heated or cooled has stresses set up within itself due to the more rapid heating or cooling the external portions than the center, which must be resisted by the strength of the clay structure or relieved by the relative movement of one portion of the brick with respect to another. An open, porous textured brick has the advantage of being able to

a n d ANSWERS

Best Authorities in Every Clay working Branch Are Called Into Consultation—Their Advice is Free to You, Thru These Columns

Should a reply be desired by letter, send a stamped and addressed envelope with your question, and it will be answered promptly.

accommodate itself to some extent, by allowing relative movement without fracture of the clay structure.

In burning your furnace brick it may also be necessary to burn the product at a slower rate in order to prevent spalling.

A prominent ceramist who has had considerable experience with refractories, states that he believes that spalling results from partial fusion—sometimes called vitrification. In order to remedy such a condition it is necessary to cut down the plastic clay, calcine some of the flint clay, or do both. Both of these practices have a tendency to keep the brick structure more open and porous.

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What Will Stimulate Building?

There is dire need for more houses, more apartments, more buildings of all kinds. From villages, towns and cities all over the country come the cry for more building.

In response to this urgent demand, various plans have been advanced for the stimulation of building. Perhaps that which has received wider approval than any of the others is the proposal to exempt buildings erected now from taxation for various terms of years, usually five to seven. This proposal is an artificial stimulant, a stimulant which has little to recommend it. It will probably cause more buildings to be erected. But many of these buildings would have been erected, exemption or no exemption. Furthermore, exemption from taxation of one class of capital will only throw a heavier burden on the rest. If building is exempted, this does not mean that the revenue will not go to the Government, but only that an equivalent amount of taxes must be secured from some other source. Taxation is high, and an even rather than an uneven distribution of the burden is the desirable thing.

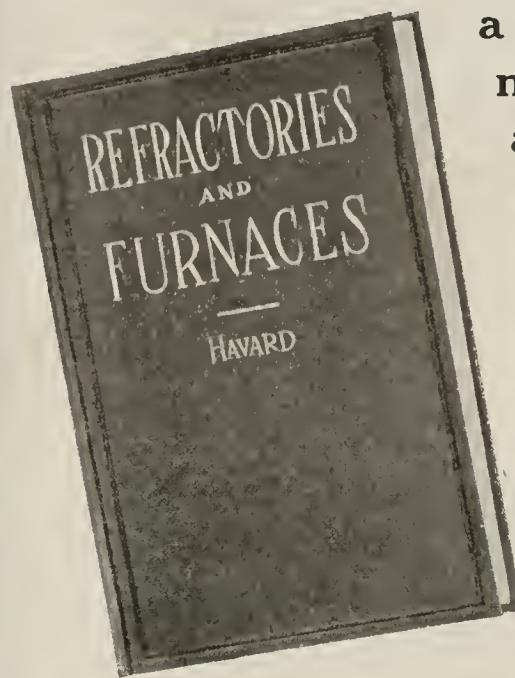
The trouble with building is the very same trouble that is causing high prices and slackened production all over the country. Sugar coating the trouble will not remove it; any remedy that will do good must strike at the very heart of the reason for lack of sufficient building. That trouble is high prices of materials, high prices of labor, and uncertainty as to when labor will take it into its head to strike, illegally or otherwise.

Any contractor will tell how unions have curtailed the number of brick that can be laid in a day, of how production has been slackened up under the influence of the false theory that the less work a man does, the more men will be required to do it and, therefore, the more jobs and the less unemployment. That is a dangerous fallacy.

A man gets paid for what he does. If he lays 1,500 brick a day he may get \$6. If he lays 1,000 and gets \$10, that does not mean that he is \$4 the gainer. No, indeed, the extra cost is tacked onto the building, his rent goes up to meet

To the man who wants to know
—who must know— who is de-
termined that *he will know more*

about the
manufacture
and use of
refractories



**WE
OFFER
THIS
BOOK**

Havard's

Refractories and Furnaces

To briefly outline its contents—It clearly describes and illustrates the preparation of silicious refractories, refractory clays, and basic and neutral refractories.

It describes the kind of refractories used, and their application in the manufacture and metallurgy of iron, steel, copper, lead and silver.

It tells about the refractories used in Chemical and Electro-Metallurgical industries. And then it describes the manufacture of refractory hollow ware, heat measurement, mining, and finally the making and burning of common clay brick.

We do not believe that a more valuable book could be purchased, and we are enthused over this idea—it should be in every single clay products plant in the United States, whether you manufacture refractories or non-refractories, you cannot afford to be without it.

Send \$4.00 to

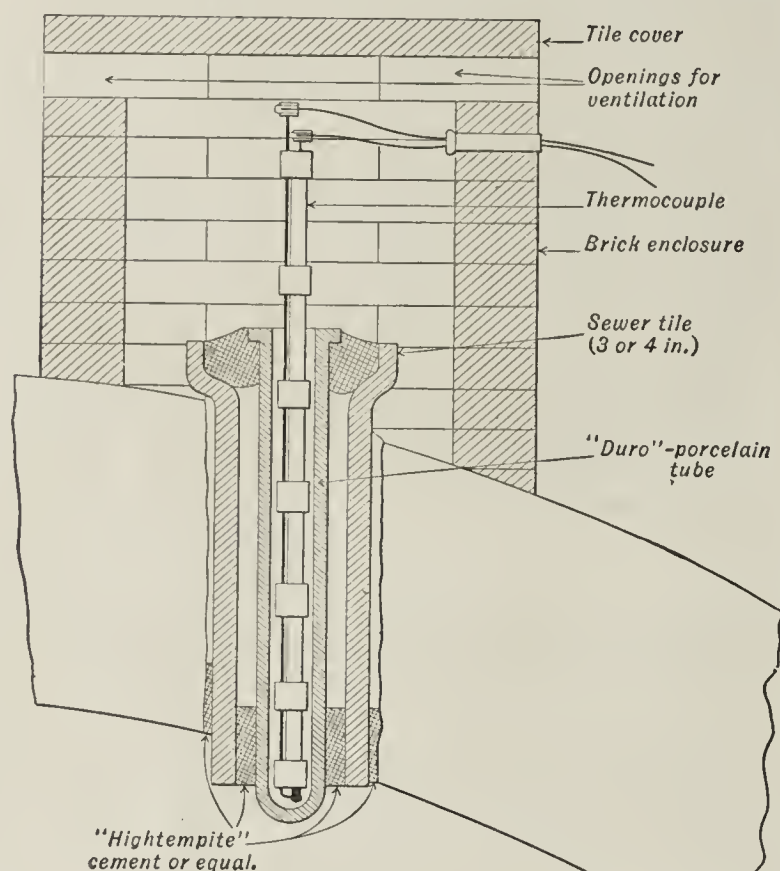
BRICK & CLAY RECORD

BOOK DEPARTMENT

610 Federal St.

Chicago, Ill.

Do you use the right thermocouples and are they properly protected?



Equip your kilns with Thwing base metal couples as shown above, put indicators where the attendants can keep close tab on kiln temperatures and keep the office records by means of a Thwing Recorder. You can then easily duplicate the heat conditions most favorable for fuel economy and for the highest percentage of perfect finished product.

Remember that a pyrometer system gives really necessary information, obtainable in no other way, and that **Thwing base metal thermocouples** used where temperatures do not exceed 2400 deg. F. give the needed degree of accuracy at a small fraction of the cost and maintenance expense of platinum thermocouples.

Thwing Pyrometers are sold with special but free engineering service in designing the system to meet existing conditions exactly. We furnish blue prints for making installation of parts for wiring, etc.—and our friendly interest begins rather than ends with the sale.

Tell us your needs. We will gladly furnish full information.

Thwing Instrument Co.

3336 Lancaster Ave.

PHILADELPHIA

25

the cost of new construction, workmen in other industries follow his tactics, and he pays more for his food, his clothing, his pleasures, and he has no more than when he was getting \$6, except perhaps temporarily. The amount of money he receives is greater, its purchasing power is proportionately less.

But let that man getting \$6 a day lay 2,000 brick instead of 1,500 and the building goes up more quickly. Prices are lower, other industries speed up—food, clothing and rent come down due to the lower cost per unit. And more men are employed. The bricklayer can afford to buy more clothing, more food, more necessities, because prices are lower, and his surplus will go into savings and into luxuries that will make his life happier and his family more comfortable. Curtailment of production means high cost and lessening demand, a lessening demand that throws men out of work instead of creating more jobs.

And that is where the trouble lies—strikes and lessened production. No temporary expedient will serve to better the building situation. Any remedy that will do real and permanent good must go to the very heart of the cause of high material prices and high labor cost, not only in this industry, but in other industries also.

High wages, yes—but greater production, a production that will keep prices low in spite of the high wages paid.—*Building Age.*

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Substituting Oil for Coal in Britain

Upset conditions in the coal industry in Great Britain are causing more and more interest in the substitution of oil fuel for coal, says the American Chamber of Commerce in London.

Sir Auckland Geddes, president of the Board of Trade, speaking recently on Britain's industrial outlook, said that the remedy of substituting oil for coal was being applied wherever possible.

The use of oil would transform the basis of the whole pre-war industrial system. Special ships would have to go out to get oil; the ships that went out for raw material would not be carrying the coal cargoes of the past, and would therefore make the outbound voyage partly empty; the goods coming back would have to pay double freights. There would no longer be the export of coal to pay for the raw materials imported.

The American Chamber in London points out that the trend toward the use of oil fuel is well illustrated by the conversion of two of Britain's greatest liners to oil burners. Both the "Olympic" of the White Star Line, and the Cunarder "Acquitania" are being reconditioned and fitted with oil burners. Greater efficiency is expected and the engine room personnel will be reduced perhaps from 350 to 40 or 50.

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Trying to Hold Foreign Labor in State

An announcement from Trenton, N. J. says that Governor Runyan is planning a conference of manufacturers of the state to discuss ways and means for retaining foreign labor in the state.

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Fire in Pottery Plant

Fire caused \$36,000 worth of damage to a two-story building occupied by the Pewabic Pottery Co., at Hurlbut and Jefferson Avenues, Detroit, Mich.

MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories
and Detailed Announcements that Our Ad-
vertisers Believe Will Interest Our Readers

Honor Where Honor Is Due

Perhaps the accompanying illustration of a military lamp may appear out of place in a clay-products manufacturers' journal, particularly in a department devoted to equipment and supplies, but if such is your thought, it is just one thing more you can blame on the war.

The lamp was recently presented to R. C. Penfield, president and general manager, the American Clay Machinery Co., Bucyrus, O., as a recognition of the splendid work he and his organization did for the United States Government in the world war.



Military Lamp Presented to R. C.
Penfield

The central part of the lamp is made from a 3-pound shell, the base being a part of a powder container. On the brass part of the shell a United States volunteer has hammered a patriotic design. The idea of equipping this shell for a lamp originated with the young man and the work was performed while in the service.

Mr. Penfield also received a hearty letter of appreciation from the United States Shipping Board praising the splendid work done by the American Clay organization.

It may not be generally known that the organization of the American Clay Machinery Co., Bucyrus, O., had the record of making some of the best munitions that entered into the war, and the splendid equipment and organization of the American company made it one of the four or five concerns in the United States capable of turning out the large 14-inch armor piercing shells and other large shells which were used. In fact, the 14-inch shells made by the American company were used in the only big guns from the United States which ever got into service in the war—the big 14-inch naval guns which were mounted on railway cars and sent to the front.

When you consider that the work done by the American plants was the very finest, from a mechanical standpoint, it becomes very plain that the quality entering into their machinery ought to be of that high standard expected of it. The best is none too good when it comes to the equipment needed in the manufacture of clay-products machinery.



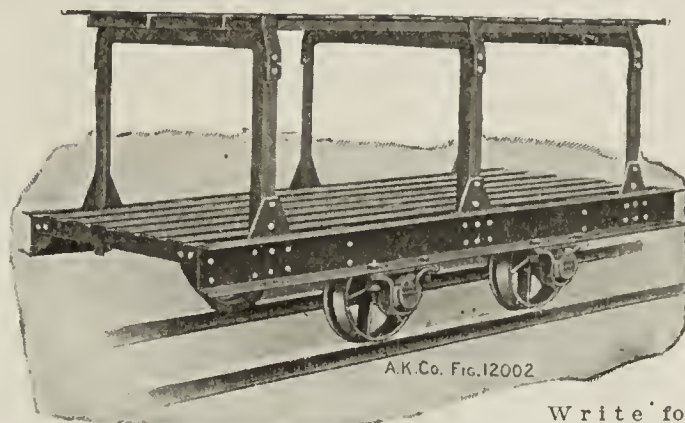
Increase Manufacturing Facilities

It is announced that negotiations have been completed whereby Jenkins Bros. will, in the near future, increase their

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manufacturing facilities, by owning and operating a plant in Bridgeport, Conn. This plant will be devoted entirely to the manufacture of the Jenkins valve—an engineering product which dates back to 1865, when Nathaniel Jenkins invented and first introduced the renewable disc type of valve.

The heirs of the founder of the business continue to hold the controlling interest in the company, thus insuring the standard of quality which it has ever been their endeavor to maintain. The present head of the company is Farnham Yardley, a son-in-law of the late Alfred B. Jenkins. Frank T. Swain, who has been connected with Jenkins Bros. since 1879, is vice-president; and it is expected that Charles V. Barrington, who has a wide experience in the manufacture of valves, will also be elected a vice-president of the company, and will be in charge of the Bridgeport plant.

The manufacture of the Jenkins discs, sheet packings, pump valves and other mechanical rubber goods will be continued at Elizabeth, N. J.

To take care of the rapidly increasing business in Jenkins valves abroad, the Canadian branch, Jenkins Bros., Ltd., of Montreal, have recently completed alterations and additions to their brass valve department, and now have in course of construction a new 192 ft. by 80 ft. iron valve foundry. The Canadian branch supplies Jenkins valves thruout Canada and foreign countries, while the Bridgeport plant will make valves for use in the United States and Insular possessions.

* * *

Coal Conveyor a Labor Saver

More than one company has found it a great convenience and saving to use a conveyor in unloading coal, but for the benefit of those who have not as yet seen the advisability of installing equipment of this sort, we quote the following letter from the Poston Paving Brick Co., Crawfordsville, Ind.;

"During the past year our company installed quite a lot of new machinery.

"Your coal conveyor has not been in operation six months, and we can truthfully say that we consider it one of the best investments made in way of machinery.

"It has given absolute satisfaction and is a wonderful time and labor-saver.

"There are times that we unload nine or ten cars of coal per week and before installing the conveyor it was almost impossible to get this done, to say nothing of the extra expense of having it done, and in nearly every case some demurrage to pay.

"Now with the conveyor, one man will unload a car load of coal in about an hour.

"We have investigated other coal conveyors, and believe we have the best one on the market. It is certainly a practical investment."

The Columbus Conveyor Co., Columbus, Ohio, from whom the Poston Paving Brick Co. purchased the equipment, described so enthusiastically in the foregoing letter, will be glad to send details to any one interested.

* * *

Geo. B. Massey Back on the Job

After laying mines in the North Sea with the American Navy, Geo. B. Massey of the Geo. B. Massey Company, Consulting Engineers, Peoples Gas Building, Chicago, is back on the job specializing in exploring, developing and equipping stripping properties, paying special attention to getting the lowest possible stripping and mining costs through the application of the best excavating machinery and methods for each property. Mr. Massey has had twenty years' experience in this kind of work both in this country and in many foreign countries.

Modern excavating machinery should be used in a modern way. As wages increase, the employer should make sure that he is stopping all possible expense leaks in other directions. These leaks are caused by using unsuitable machinery, by poor layout, faulty methods and bad habits slowly acquired.

An experienced eye looking over a property for the first time will detect instantly unusual operating conditions which the eye grown accustomed to the conditions will not observe.

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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To

decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

FIGURES SHOW FIVE PROSPEROUS BUILDING YEARS AHEAD!

Production Should Be Speeded Up In Order to Get the Most Out of the Business That Will Be Offered to Clay Products Industry

HOW DOES the building situation stand today?

At the beginning of the year 1919 it was announced that the country was four years behind in building and that the United States was short two million homes. Despite this generally accepted view, building activities did not take on new life following the war until quite late in the spring, and in some places, not until the latter half of the year. There were a number of reasons for this late start, all of which may be said to be ultimately due to unsettled conditions. However, the last half of the year showed enormous activity in building—perhaps the greatest ever experienced in any six months, but if spread over the entire year, it is doubtful if we had more than an ordinary year.

A VARIANCE OF OPINION

There seems to be a variance of opinion as to the amount of building that has been completed during the past year. Some seem to think we have nearly caught up with back building. Others believe we just had a little more than a normal year, while still others claim that we have not even had a normal year. **The effect these different viewpoints will have upon the clay products manufacturing industry will be opposite.** Those manufacturers who believe that we have caught up with building will likely rest on their oars and be cautious as to their production for the coming year. On the other hand, those who believe we have only had a normal year will strive to increase production to meet the demand that is bound to occur.

WHAT ARE THE REAL FACTS?

Now what are the real facts in the case? Who knows? Have we scratched the surface yet or have we gained back all lost ground? Some think that the year 1920 will be just an ordinary year. However, there are also some who, like L. R. Walker, general sales manager of the Certainteed Products Corporation, who has just completed a three weeks' tour of investigating building conditions thru the East, South and Middle West, believe that **a five to seven-year period of big building activity is ahead.**

"People have come to realize that high rents are here to stay, and that they justify building at the present prices," said Mr. Walker. "For four years building has been held up. As a result, it is difficult in most parts of the country to rent homes. This comes under my personal observation from the difficulty that salesmen of the Certainteed organization have in getting dwellings when they are transferred from one district to another. The company has had difficulty in renting warehouses.

SAYS LAST YEAR ONLY 75% NORMAL

"Recently I had word of the commencement of \$4,000,000 worth of construction work in Texas. This job is typical of work elsewhere. It has been held up for some time. Not only will normal building have to be taken care of, but the country must make up for work which was not done during the past four years. **Even during the past year building was only about 75 per cent. normal.**"

Perhaps the best recourse to finding the true situation with regard to building is to refer to figures on building that have been issued. But here again there is difficulty because building costs have increased considerably during the past few years and a comparison by volume is hard to make. However, by allowing a certain amount for the increased cost of building it is possible to arrive at some comparisons that will be fairly reliable and will at least give us

an idea as to how the building situation actually stands.

FIGURES SHOW GAIN IN VALUE

The following figures are comparative statistics of building and engineering operations from January 1 to December 1, based upon contracts awarded as compiled by the F. W. Dodge Co. These figures do not take in the whole country, but the greatest part of it and can be taken as indicative of the entire country. The data is on operations in the states north of the Ohio and east of the Missouri rivers, viz.: New England, New York, New Jersey, Pennsylvania, Maryland, Delaware, District of Columbia, Virginia, Ohio, West Virginia, Illinois, Indiana, Iowa, Wisconsin, Michigan, Minnesota, North and South Dakota and portions of Missouri, and eastern Kansas: Contracts awarded January 1 to December 1,

1919	\$2,332,902,000
1918	1,631,929,000
1917	1,527,370,000
1916	1,243,998,397
1915	857,190,100
1914	677,920,300
1913	798,117,500
1912	803,391,500
1911	735,283,813
1910	756,284,931

By using the above figures in calculations it will be seen that the increased cost of building operations of 1919 over 1916, which has been claimed to be the biggest year in volume of building the country ever experienced, amounts to roughly 87½ per cent. It is obvious that building activity during the year just past was not as much greater as the figures indicate. Hence, the increase in cost of operations must be due largely to the fact that it required more money to put up the same type of building in 1919 than it did in 1916.

STUDY VOLUME, NOT COST

We do not believe that because of the increased cost of building that factories, warehouses, residences, etc., will be built smaller so as to reduce the cost. People will build five and six-room homes just as much as ever and manufacturers will not find it economical in the long run to curtail their factory or warehouse space. Thus it will be seen that a true

comparison can only be made by studying volume of building rather than cost of operations. This is hard to do because of lack of records on building volumes. However, a fair estimate may be obtained by taking into consideration the increase in cost of building and then comparing figures. But here again, you run into trouble because of the variable increases in different parts of the country.

ENORMOUSLY INCREASED ESTIMATES

One of the largest contractors in Louisville claims that the increase in cost of building a structure of same specification during the past four years amounts to 95 per cent. A contractor in Chicago who does a large amount of construction work for railroads, street car lines and the City, has revised his 1919 estimates so that allowance for increased cost of construction work to the amount of 127½ per cent. over 1915 estimates is made. In New York where building materials have been very scarce of late and the market approaching a stampede, these figures would perhaps also hold true.

If we may be permitted to use this figure of 127½ per cent. as the general increase in cost of construction, we find that \$1,068,000,000 represents the true volume of building operations for 1919 instead of \$2,333,000,000 as reported in the above table. This new sum is then found to be approximately 25 per cent. greater than the cost of building operations of 1915 which was barely an ordinary year. This does not allow for a natural expansion of each year over the preceding year.

1919 NOT SO GOOD AS 1916

According to reports of the U. S. Geological Survey, the increase in building operation for the year 1916 over 1915 was 28½ per cent. Hence, if our figures are anywhere near correct we have just had a year a little less active than 1916. But 1916 was the greatest building year this country has ever seen.

All of the above calculations and considerations will at least bring out one fact, and that is, that we have hardly begun to make up for deferred building and we have five prosperous years ahead, each one of which should be a 1916 building year.

"BUSINESS FIRST" WILL *be* SLO

*February 16, 17 and 18 to be Busy Days at
Manufacturers of America Will Hold Second Annual
Welfare of the Business—Cost Accounting and*

THE CLANS will soon be gathering for the tremendous nation-wide conclave to be held at Columbus, Ohio,



DESHLER HOTEL

February 16, 17 and 18, at the Deshler Hotel. That this will be the most representative gathering of common brick manufacturers ever held is a foregone conclusion. The Common Brick Manufacturers' Association of America, after two years of effort, has gathered into the fold brick-makers from all sections of the country who are enthusiastic for the success and welfare of the organization.

Some of them have put in a large amount of money for publicity and the promotion of the use of building brick. It goes without saying that they will be on hand to learn of the progress that is being made with the Association's advertising program. There are many others who are vitally interested and who are even now planning to throw all their support in the balance in favor of the Association's efforts to popularize the use of common brick. They, needless to say, will be present.

FIRST SESSION ON MONDAY AFTERNOON

While it is yet too early to announce a definite program, there are some details which have already been determined. For instance, the first meeting of the association will take place at 2:00 P. M. on Monday, February 16. The morning is to be devoted to hand-shaking and registration—in making new acquaintances and renewing old.

The Monday afternoon session will be featured by the annual reports of the officers. William Schlake, president of the association, will give an account of his administration; Ernest S. Barkwill, treasurer, of his stewardship, and Ralph P. Stoddard, secretary, of the work of the association from the secretary's standpoint.

It is expected that an arrangement will be worked out whereby one man from every state will give a report upon the common brick situation in his particular unit. The name of every state will be called and in response some delegate brick manufacturer will answer present by reporting on the labor and coal situation, fuel supply, cost of manufacture, and so forth. He will be asked about the

outlook for production in 1920, stock on hand in his district, and orders already on the books.

At subsequent sessions of the association, there will be talks on cost accounting by at least two experienced speakers. D. Knickerbacker Boyd, a prominent eastern architect, will talk on the general subject of helping the architect to use common brick. James F. Basiger, general manager of the Chicago Housing Association, will give an illustrated talk on the building of ten thousand small brick homes in Chicago. William Carver, the association architect, will speak on "Reasons For a Standard Size of Common Brick."

COMMON BRICK WALL WITH AIR SPACE

Walter R. Simons, Simons Brick Co., Los Angeles, Cal., a well known common brick manufacturer on the coast, has patented a type of common brick wall with an air space. It is expected that he will give a demonstration of this wall and a talk concerning it.

Warren Griffiss, of the Baltimore (Md.) Brick Co., will speak on "The Development of Common Brick for Facing Purposes." Mr. Griffiss has had quite a little experience with this subject and will give some interesting facts to fellow brickmakers at Columbus.

Ernest E. Bell, vice-president of the Hydraulic Steel Co., Cleveland, Ohio, will speak on "Putting Your Own House in Order." This company owns six plants manufacturing as many different products. They are extensive and intensive advertisers and Mr. Bell will tell brick men how to get the greatest good out of the widening field which is rapidly developing for common brick.

On Tuesday afternoon, February 17, there will be an advertising session. At this meeting some of the forthcoming advertisements for common brick to appear in the association's advertising campaign, will be on exhibit in greatly enlarged form. Also, helps to guide the common brick manufacturer in his own local advertising will be displayed.

During the convention, one room will be devoted to the display of house plans, specifications and sample blue prints, which the association will be prepared to furnish. There will also be some panels of common brick on exhibition.

HERE'S A SILK HAT FOR SOME ONE

Last, but not least, let it be mentioned that a first-class silk "tile" (a regular one) will be presented to the common brick manufacturer bringing with him to the convention the best specimen of an association trade-marked brick. Clay men with social aspirations are expected to enter into strong competition for this prize.

"There never was any time exactly like the present," said Mr. Stoddard in commenting upon the coming annual meeting. "Never did the manufacturers of brick face similar conditions with a future full of the brightest promise yet just out of their grasp and requiring a level head and a steady hand to make it secure.

"It's all up to the brick man now. For two or three years there will be a demand for material that he cannot supply in full. The future preference of the country in materials

GAN *at* COMMON BRICK MEET

Columbus, Ohio, Where Common Brick Manufacturers' Association Convention to Consider Problems Vital to Advertising to be Headliners on the Program

will be found during these years and as they build now, so will they build in the years to come. Lumber is scarce and exceedingly high in cost. It is a vanishing commodity as far as the United States is concerned. What material will take its place in the eighty-five per cent. of residence building that lumber has monopolized for years past?

"Who will get that two and one-half billion dollars yearly as it slips year by year from the lumberman's fingers?"

"These are questions for discussion by the best obtainable authorities at the Columbus convention. Nothing that a manufacturer can do will be of greater benefit to him than attending this convention."

"The session devoted exclusively to the interests of the common brick manufacturer and under the auspices of this association, occur on Monday and Tuesday with the election of new officers Wednesday forenoon."

"The Common Brick Manufacturers' Association of America will present a new constitution and by-laws which embraces the local or district association plan. This, it is expected, will be adopted enthusiastically by the members, since it builds up the national organization with strong foundation units in every state of the union."

COLUMBUS HOTELS

"The hotels in Columbus are the Deshler, Chittenden, New Southern, Neal House, Hartman and Virginia."



The announcement that the proposed expenditures in the United States for the next year for hard-surfaced highways will be \$633,000,000 as compared with the \$125,000,000 expenditures for 1919 for the same purpose, will probably be of as much interest to the farmers of this country, who de-

pend upon the highways to get their products to market, as it is to clay products manufacturers.



The Production Outlook

The labor situation is so much better now, says a prominent New York analyst of business conditions, that we may look for an early revival of production, probably reaching the normal line in January and getting well above normal before the spring of 1920, so that the shortage of goods is probably at its height now. Real relief is not likely to be seen much before the middle of the year.



New President of the N. P. B. M. A.—Spencer M. Duty Chosen by Board of Governors

Furtherance of the constructive work initiated by the National Paving Brick Manufacturers' Association in 1919 is assured in the choice by the governors, of Spencer M. Duty as president. His election is universally regarded in the industry as happy recognition of long and active service in the promotion of its interests.

At the time of the association's organization in 1905, Mr. Duty was made secretary. He served in that office for three years. Since that time he has filled many offices and served on numerous committees. Among those at present are cost accounting, membership and trade-mark. Of the first two he is chairman as he was of the membership committee when the association was reorganized in 1918.

The new president comes of a long line of brick makers. He is the fourth generation of the family to be engaged in



PRESIDENT WILLIAM SCHLAKE



SECRETARY RALPH P. STODDARD



TREASURER ERNEST S. BARKWILL

the business in Northern Ohio. Mr. Duty became owner of the Collinwood Shale Brick Co., at Cleveland, on the death of his father in 1902. Four years later this company merged with the Malvern Clay and Carrollton Shale Brick companies under the name of the Deckman-Duty Brick Co., and Mr. Duty became the president of the new company. In 1916 the Deckman-Duty company purchased the Wooster Shale



SPENCER M. DUTY

Brick Co. and reorganized as the Medal Paving Brick Co., operating plants at Cleveland, Malvern, Carrollton and Wooster, Ohio. Mr. Duty has been president of the Medal company since its formation.

He is widely known in his own and other clay manufacturing industries. Thruout his career as a manufacturer and member of the association Mr. Duty has been identified as a leader among the builders of that increasingly successful and growing organization.

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Kentucky Association Meets January 21

The annual meeting of the Kentucky Clay Products' Association will be held at the Louisville Old Inn Hotel on January 21. Nothing has been decided as yet on the program, altho it is expected that Ralph P. Stoddard, of the Common Brick Manufacturers' Association, will probably be able to attend.

✕ ✕ ✕

Two Opinions on Reduction of H. C. of L.

Attorney General Palmer states that the primary factors involved in the cost of living, which is already under control, are increased production, the elimination of extravagant buying, and the determined hunting down of profiteers. Mr. Palmer said: "If everyone who produces will produce

his utmost, if those who buy and consume will save and eliminate extravagance and if all honest people will join with this department in stamping out profiteering and hoarding, the cost of living can be reduced."

Commissioner of Labor Statistics Meeker states that the cost of living will not be materially reduced until currency inflation is curtailed. Until national debt is reduced, there will be no noticeable depreciation in prices. Any attempt at great reduction would bring a blow at the whole structure of business and possibly a panic would follow.

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Philadelphia Schedules Building Exposition

The Philadelphia Real Estate Board has perfected plans for an exposition of real estate and building at the First Regiment Armory, Philadelphia, during the week of April 5. Brick manufacturers and other local producers of burned clay specialties, are expressing great interest in the event and it is anticipated that the affair will take on a mammoth attitude. It will contain the largest number of exhibits pertaining to building operations ever brought together in the city, and will be officially known as the Real Estate & Building Exposition. William H. Wilson is president of the Real Estate Board.

✕ ✕ ✕

The Year's Building Record

In the entire country the 1919 building projects will reach \$2,600,000,000, says a New York authority, based on F. W. Dodge Co. reports. This includes engineering operations and construction of all forms. It is nearly a billion dollars above the 1918 total, which held the high record. Current projects are one-third residential, one-third industrial, 15 per cent. for general business and 10 per cent. for public works and utilities.

Builders in New York City district are rounding out a \$550,000,000 year, more than one-third of the building being residential. While Manhattan's main activity has been in business projects, Brooklyn and Queens are bustling with home building, and suburban operators have put up small houses by the hundreds and vastly improved transportation facilities.

Capital for building seems to be most available in the Central West, where operations are running far past all previous volumes. Reports from Illinois, Indiana, Iowa, Wisconsin, Michigan, Missouri and Kansas show outlays of \$820,506,000 for eleven months of the year. All parts of the country score good gains over their old high records. New England, in its rush to get abreast of the demand for homes, has called for outlays of \$207,288,000 during the year and the middle eastern section has a record of nearly double the best volume of any preceding year.

Peace in the New York industrial field is tentatively assured for 1920 by the agreement now pending between the Building Trades Employers' Association and the Building Trades Council, the latter representing 41 unions in New York City and Long Island, and 150,000 employees. Negotiations have been in progress for a year and the agreement is considered by far the most important step ever taken toward amicable working arrangements between employers and employees. Strikes are made improbable during 1920 by this agreement and a clause is provided for the continuation of the plan into 1921.

The purpose of the measure is "to obtain continuity of employment and uninterrupted production" and it provides for a permanent board of arbitration. It would seem to herald a new industrial day.

GETTING *the* MOST OUT *of the* DRY PAN

*A Symposium from Four Manufacturers, Containing Hints on
How to Strengthen the Grinding Department, Together with
Valuable Data on Results Reasonable to Expect from a Dry Pan*

VERY FEW MACHINES on the clay plant are subjected to the usage to which a dry pan is put. Everyone will agree that it is one of the main cogs of the gear represented by the clayworking establishment.

Most clay products manufacturers realize that in order to be successful it is essential that the plant be well balanced in the various departments of manufacture and that each department continually run to capacity. Often-times a plant which has been operated as a failure can be brought back to prosperity without the addition of a single piece of equipment but by simply installing a correct system and getting a constant and utmost output from each piece of equipment.

A step in the progress of manufacture that is frequently responsible for an interruption in production is the grinding department. More than a few plants are compelled to stop their machinery too frequently because of "no dust." It is because of this reason that many plants are in need of more information on their grinding equipment and also because a comparison of results obtained from dry pans is interesting, that the following article has been prepared.

Four manufacturers of both average and large capacity, using three different types of dry pans, have been kind enough to furnish the valuable information that is contained herein. Nineteen questions concerning dry pans were asked of these manufacturers and their answers have been made the basis of this manuscript.

DRY PAN GIVES SATISFACTION

Plant No. 1 based its answers on a 9-foot pan that has advantages, it claims over other pans in that it is built with a strong frame. The capacity obtained by this pan is twelve tons on a shale-clay mixture excavated by a shale planer. Inasmuch as the pieces of clay which enter the dry pan are smaller in this case than if the clay were won by use of a steam shovel, it is expected that the above figure

is approximately as great a capacity as could reasonably be expected from this machine using clay of the type ground at this plant. The size of mesh of the screen plates in this case is 3/32 of an inch. The dry pan is not individually driven but it requires about 27 h. p. to operate it. One man is required in its attendance. The muller tire, which is made of manganese steel, is 54 inches in diameter with a 12-inch base and grinds ninety thousand tons of clay before requiring renewal. The frequency of the screen plate renewals is about six months and the yearly cost of repairs amounts to approximately \$350. Cast iron and malleable iron are used in the dry pan parts.

Very little time is required for adjustments or repairs on this machine which seems to give entire satisfaction. Since the shale planer delivers the shale in pieces of two inch size and smaller, it is not necessary to use a preliminary grinder.

USE HEAVY DUTY TYPE PANS

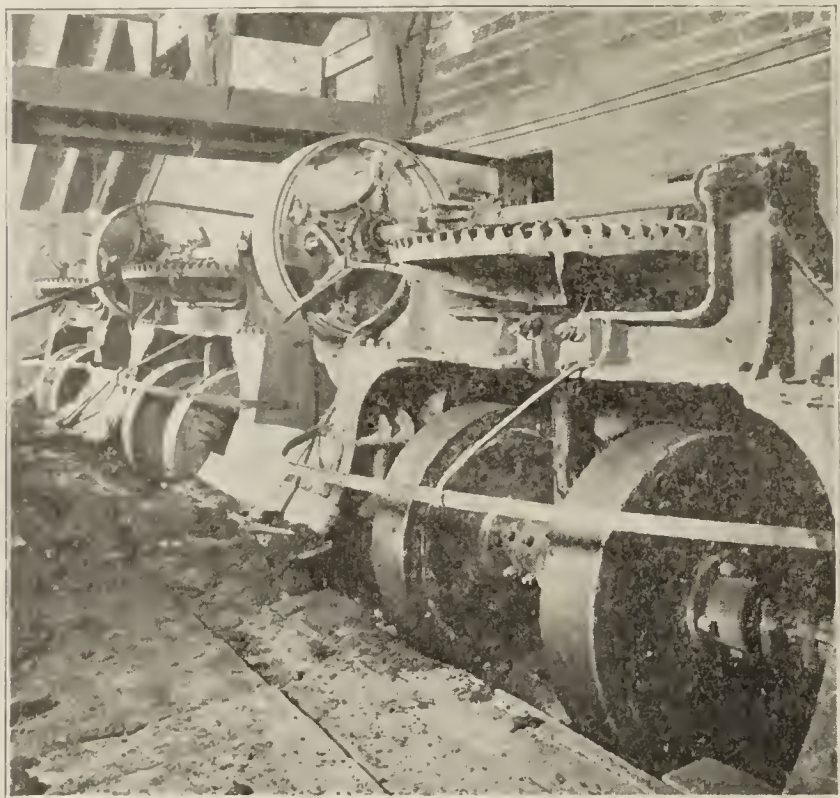
Plant No. 2 is using three 9-foot dry pans all of the same make and of heavy duty type. The capacity depends entirely upon the nature of the material to be ground but on this plant the material is very hard and sandy and at times is mixed with wet top clay. A crusher is used for breaking up the shale before it is delivered to the pan and this installation saves considerable expense in pan repairs and greatly increases the capacity. Each pan grinds a tonnage varying from eight to fifteen tons per hour. One 35 h. p. motor is used to drive each pan. The size of the screen plates which are used is governed by the kind of material being ground, likewise the horse-power required to drive the machine, but the screen plates are made of steel.

Plant No. 3 is a large paving brick plant using eleven 9-foot pans and two 10-foot pans. This concern believes that the 10-foot pan is more desirable as it has a greater



Screen Plates Upon Which Much Depends for the Economical Operation of Dry Pans; Much Time and Money Can Be Saved by Having Them Made of Strong Wearing Metal and of Proper Design.

capacity and on account of the height of the mullers, enables them to climb larger chunks and thus eliminate sliding of muller and causes less maintenance and repair expense on account of heavier and better construction. The pan is equipped with steel gears. The 9-foot pan used on this plant is very satisfactory, the outstanding feature of



A Scene in the Grinding Department of a Clay Plant Where The Dry Pans Are in Good Working Condition.

this pan being the screen plate for which this company has designed its own patterns which are exceptionally heavy ribbed in order to give great strength and long service, and also allows the maximum number of openings to give larger screening capacity. The heavy ribs are taken care of in length but not in width.

LARGE CAPACITY FROM TEN-FOOT PANS

A preliminary crusher is used as it gives less wear and tear on the dry pan, permits greater capacity, allows less labor charge per ton, and more uniformly mixes and distributes material. The 9-foot dry pans have an average of from ten to fourteen tons per hour. On the other hand, the 10-foot pans turn out from fourteen to twenty tons per hour. The screen plates are standardized on two sizes, $3/32$ of an inch and $3/16$ of an inch.

All the dry pans are driven from a line shaft, the power required varying from 12 to 47 h.p. per ton, depending on the size of the pan, quantity of material in pan and size and condition of the material. One man is in charge of each pan except when material is uncrushed and comes in large chunks, in which case it is necessary to throw in extra labor.

All muller tires and centers have a 10-inch face; 46 and 50 inch diameter tires weighing 3,800 and 5,000 pounds respectively are used on the 9-foot pans. Sixty inch mullers weighing 7,500 pounds are used on the 10-foot pan. Sixty thousand to seventy-five thousand tons of material are crushed before it is necessary to change the muller tires on the 9-foot pans, while 90,000 to 110,000 tons of shale can be ground in the 10-foot pans before tire renewals are necessary. Screen plates are renewed about once a year disregarding breakage. The average repairs per pan amounts to about \$400 each year.

The countershafts and muller shafts of the dry pans are made of cold rolled steel and the vertical shaft of drop forge steel. The gears on the 10-foot pans are of cast steel. This

plant is also making this standard on the 9-foot pans as the old cast iron gears are wearing out.

Screen plates are made of mild open hearth steel, manganese steel and cast iron, more cast iron being used than anything else. The plows on the 10-foot pans are of steel, clad with a cast iron shoe and point. The steel muller block guides and other parts are of cast iron.

About three hours' time per week is required to make repairs and adjust the pan, and it is always the aim of this plant to make the repairs on Sundays.

The general design of construction of the 10-foot pan used on this plant is considered superior to all other types. This concern considers them cheaper to maintain and finds less time lost thru repairs than with other pans. The pan has a greater capacity and requires less horse power per ton. Equipped with steel gears, 7,500 pound mullers, better step construction, two piece bolted down screen plates, more massive and rigid construction is obtained thruout. All wearing parts are made of cast steel including arms, spider and gears. However, it is believed by this concern that the screen plates and wearing parts should be made heavier. Also the bridge which carries the plows should be arranged with some compensating device, and the present construction is too rigid, a matter which may be the cause of many accidents. The production of the plants for the period concerning which the above data has been taken is for the year:

1915.....	126,000,000	brick
1916.....	115,000,000	brick
1917.....	110,000,000	brick

The shale used by the above plant is hard blue shale with an overburden of weathered brown shale and a light strata of yellow clay.

MANY FACTORS INFLUENCE CAPACITY

Plant No. 4 operates three 9-foot dry pans. In answering the question regarding the capacity in tons per hour obtained from a pan, this firm stated: "Approximately 20 tons per hour. Of course, you are aware that the capacity of a dry pan depends on a number of things which you have not mentioned in your list of questions. The fineness to which the clay is screened for instance, and our clay is screened thru a Tyler No. 35 ton cap style of woven wire screen which we have found after a good many years experience to be the best way of screening clay. We have also in use one Newago screen which works very satisfactorily. The capacity of a pan depends also on the speed at which it runs, and we have noticed a wide variety of speeds



Muller Tires of Dry Pans if Made of Proper Materials Give Long Wear and Good Service.

used in different plants. At some places they are run very much faster than at the manufacturer's rating. The capacity also depends on the condition or size of the clay which

is fed into the pan. We have seen places where the shale or clay was dug with a planer and came to the pan apparently with at least twenty-five per cent. of it fine enough to go thru the screen plates of the pan. At other plants where no crusher is used, some of the clay, of course, which is dumped into the pan is in very large pieces and this condition cuts down the capacity of the pan.

"Another feature which controls the capacity of the pan is the method of feeding it. By this we mean whether there is a continuous feeding or whether the feed is intermittent. It takes some experimenting in the matter of feeds to get a pan up to its maximum capacity, and this can only be accomplished by feeding into the pan the necessary quantity which is being properly ground by the pan and by doing this continuously; also the quantity of clay in the pan makes a considerable difference as to its capacity. It will be found upon experimenting that the pan should be just so full in order to secure this maximum efficiency and if more clay is in the pan or if less is there, the capacity of the pan will be cut down.

FINE MATERIAL SLOWS UP CAPACITY

"Another item which affects the capacity of the pan is this, that no material should be fed into it which is fine enough to go thru the screens in the shape of properly ground clay ready for the brick. Such material should be passed around the pan and not be allowed to interfere with its capacity. In this connection we might say that the same rule should be made to apply to any crushing plant.

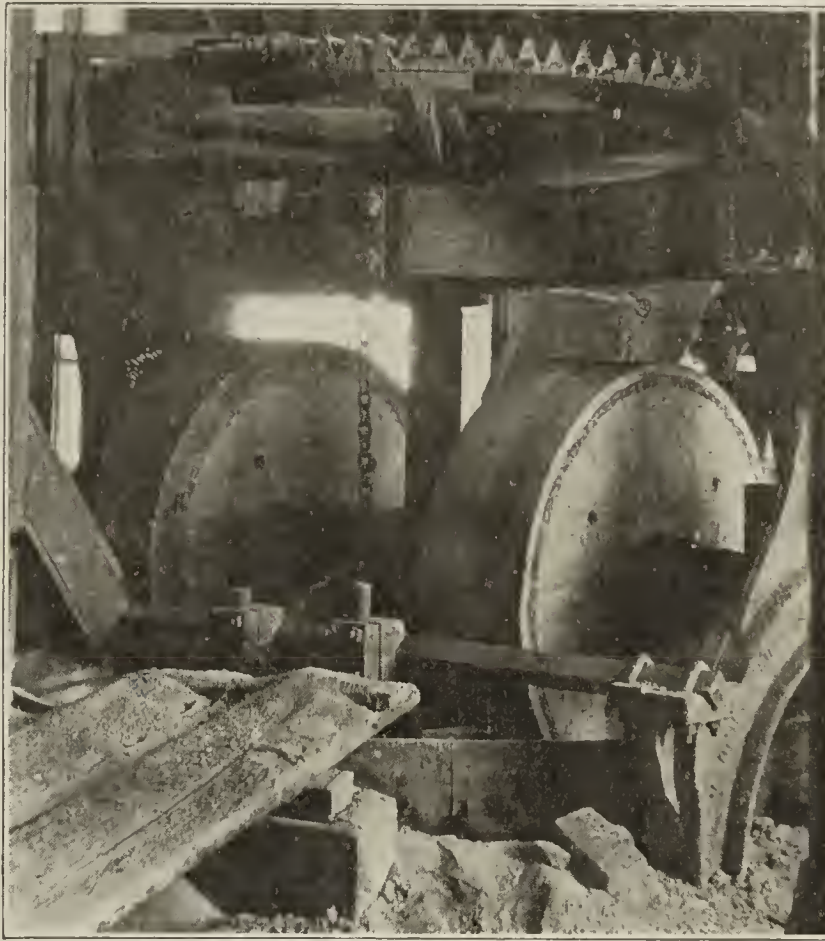
"Still another item which limits the capacity of the pan is the size and weight of the muller wheel. In our case here, the original muller wheels furnished us with the pans were 48 inches in diameter by 12 inches in width, and in order to increase the capacity of our pan we increased the size of these muller wheels to 54x14 inches in size. While we succeeded in increasing the capacity of the pan by this means, we also added materially to the wear and tear of the pan, and it is costing us a great deal more for repairs than originally. The character and condition of the clay and shale also, of course, has a great influence on the capacity of the pan. This, however, is covered in another item."

The size of the mesh of the screen plates in the case of the above plant is 3/16 of an inch and the slots run in a radial direction. However, it is believed that the best results can be secured by running these slots parallel to the circumference of the pan rim. The screen plates are in two sections so that the section nearest the muller wheels can be removed as this section wears out first. This feature, of course, cuts down the cost of screen plate repairs."

A few years ago this concern for experimental purposes used a 50 h.p. squirrel cage alternating current motor to drive one of the dry pans. This motor was about the right power to do the work and it is doubtful whether a smaller

MANGANESE STEEL SCREEN PLATES GOOD

The present mullers in use are 54x14 inches in size, the tire being 4 3/4 inches thick. One set of tires will grind approximately twenty-five thousand tons before requiring renewal. It is almost impossible to give any definite information on the frequency of screen plate renewals on this



A Dry Pan Which Does Heavy Work Grinding Fire Brick Bats for Making Grog.

plant. They have used manganese steel screen plates, which were in the pan for two years at a time without having been renewed.

These manganese steel screen plates never break but finally wear so thin and the slots are so large that they have to be thrown away. As close as can be told the inner screen section will run about six months and the outer section about a year before requiring renewal.

In regard to the yearly cost of repairs this plant replies: "We suppose that in this respect our plant is like most other plants that no definite system of keeping the cost of repairs on individual machines is used. It should be done this way, of course. Our best guess on this matter is that each pan costs us about \$250 a year for new repair parts and the labor of installing them."

This plant used dry pan gears made of manganese steel and has found that there is absolutely no comparison between this metal and other metals for this purpose. In fact, this concern has actually forgotten how many years ago the manganese steel crown wheels were placed upon these pans and they are still good for a number of years. Concerning the pinion, this plant, of course, has had largely muller wheels and the pinions have a great deal of work to do. However, the manganese steel pinions will last not less than three years and no other metal has been found that could last as long as six months in this place. Manganese steel screen plates and tread plates have also been used under the muller wheels. The tread plates would wear almost as thin as paper before they would have to be removed. This firm furthermore reports that they got very good service from the Duro metal furnished by the Manufacturers Equipment Co., of Dayton, Ohio. This metal does very well it is claimed by this plant, in withstanding the abrasion.



Tread Plates Also Form an Important Wearing Part in Dry Pans and Should Be Made of the Proper Metal.

motor would have been as satisfactory. Of course, the hardest pull is on starting the pan when there is clay in it. However, at the present time all of the pans are belt connected to the main line shaft of the plant. With the method used in feeding the clay into the pans at this plant, it requires one man at each machine.

STEP BEARINGS NEED IMPROVEMENT

Probably one-half hour a day delay is required on each pan for repairs and adjustment. In this connection the clay on this plant is very hard and abrasive, which with the extremely large muller wheels installed, makes the wear and tear on the pan excessive.

In reply to the question of what particular features of their pan recommends it for use, their reply was "None that we know of. In fact, our pans have some undesirable features which we wish were absent. The step bearings, for instance, are not dust-proof and the bronze wearing plates have to be renewed frequently. We will wear thru about an inch and a half of solid bronze every six months, and it is no small job to jack up these pans to renew these parts."

In answer to the question as to what improvements it is desirable to have made, the firm from which this information has been obtained replies: "Under this heading we should perhaps have put our remarks made under the previous item on the subject of step bearings. Of course, a dry pan, like every other kind of a machine, is more or less a compromise. A dry pan is a compromise in that it allows certain of the material which should pass thru the dry pan screens and out of the pan to again pass under the muller wheels. This results in decreasing the capacity of the pan. The ideal condition in this respect would be for the clay which had passed under the muller wheels to be thoroly screened of any material which had been reduced to the proper size. This could no doubt be accomplished by the use of screen plates having very large slots but this would require extreme duties of the elevator and screens used in connection with the dry pan. In order to shield the elevator screens of such excessive service, it is necessary to reduce the size of the slots in the screen plates, but this, as pointed out decreased the capacity of the pan.

SUGGEST IMPROVEMENTS

"Now, in so far as our pans are concerned, we would like to see the following improvements made in addition to a more efficient step bearing: The pulley as originally furnished would accommodate a 12-inch or possibly a 14-inch width of belt, and this should have been not less than 18 inches, and in our present case with our large muller wheels in the pan we ought to be able to use a belt not less than 22 inches in width. The clutch as originally furnished, was not strong enough for the small muller wheels such as we first had. We secured a later type clutch but found that this is not satisfactory either as it is not properly balanced and requires too frequent renewal of the brass bushing immediately around the driving shaft.

"We finally installed two Dodge clutches on the line shaft to drive the pan by means of the pan pulley being keyed to

the pan driven shaft. These clutches are very much over-size apparently according to the manufacturer's rating, but in service we do not find them to be large for the work required. In this connection there is a way of driving the pan, or any other machine properly, without the use of clutches which where possible can be installed to great advantage. This is accomplished by installing about ten feet over the pan and parallel with the pan driving shaft, a countershaft, which is set on eccentric bearings on take-ups, which will allow this countershaft to move up and down.

"The countershaft is then belted direct to the line shaft, and a short belt is used in a vertical position running from the countershaft pulley immediately to the drive pulley of the pan. This countershaft is raised to tighten the belt to the pan and drive the pan in operation. When it is desired to stop the pan this countershaft is lowered which loosens the belt on the pan pulley, which allows the pan to stop and the belt to idle around the pan pulley. By this means the clutches are entirely done away with. Another improvement we would like to see on our pan is a better means of raising the crown wheel up, or lowering it, to adjust itself to the pinion in order to make the proper adjustment for wear in the step-bearing. As this is done now on our pan it is by means of a key and keyway in the shaft and the crown wheel. Then keyways wear considerably, and they get in such bad shape that when renewal is necessary you have a bad job on hand."

PRELIMINARY CRUSHER ESSENTIAL

In the case of this plant it could not get along without the use of a preliminary crusher as its clay is so very hard that if the pans are fed large chunks the wear and tear is simply tremendous on them. The muller wheels would pass clean over the top of large chunks and come down with a crash when fed this kind of material. In this connection, it would undoubtedly be better if the mullers were of the suspended type, and this is also a very good feature in preventing wear of the muller tires and tread plate when the pan is allowed to run empty, which does happen occasionally. This arrangement would, of course, keep the muller wheel off of the tread plate.

The data presented above, is on pans which have ground clay sufficiently for three and a half million brick during the year. The clay in use on this plant is a fire clay of unusually hard and abrasive character.

The information given above, which was obtained thru the liberal cooperation of four prominent manufacturers, contains a wealth of material which it would pay manufacturers to read over more than once for there is undoubtedly pointers of value herein, such as cannot be obtained elsewhere.



BRICK PAVING STANDS FIRST—SHOWS HIGHEST PERCENTAGE *in* MILEAGE UNDER TEST

THE VALUE OF MONOLITHIC BRICK for road construction is unquestioned—slowly but surely this fact is becoming more and better known. Each year sees an increase in the number of brick highways constructed, and each year shows a growing appreciation for the pronounced merits of this type of road. "Build that highway of brick," is a sure, safe decision.

Properly constructed, monolithic brick pavement is un-

surpassed for real durability, ease of maintenance, low cost of upkeep, cleanliness and attractiveness. These are sort of basic factors that govern the selection of road materials, but there are other characteristics to be considered such as tractive utility as pertains to heavy haulage, greatest mileage, and so on. And here, again, brick more than holds its own.

Some interesting and instructive tests have been made

recently by the Good Roads Section of the Engineering Experiment Station, Iowa State College, at Ames on different types of road surfacing, to determine the efficiency of the various road materials that may be employed in the future in the paving operations of the state. These experiments cover the matter of tractive resistance of the different types of hard-surfaced highways, showing which character of surfacing is the easiest over which to haul loads. Military trucks were placed to service for this purpose, these being furnished by the State Highway Commission from the allotment received by Iowa from the War Department.

The various types of hard-surfaced roads considered were monolithic brick, concrete in good condition, bitulithic, gravel in excellent condition and ordinary gravel. The monolithic brick pavement stands first in the tabulation of results—it gives the greatest actual mileage, and also the largest ton mileage per gallon of gasoline of any of the others, or in fact, any type of pavement so far tested by the Experiment Station. This shows, conclusively, that it is the ideal road material, and the findings, as set forth below, are well worth noting.

The accompanying illustration shows the military trucks used for this work, these being of the heavy aviation type army truck, with capacity of three tons. The truck and load had a gross weight of nearly eight tons. In another picture is shown the dynamometer employed to register the amount of pull required to move the truck over the different roads.

With the monolithic brick pavement, the tests indicated 3.84 miles per gallon of gasoline, and 30.72 ton miles per gallon of gasoline. We have come to think of concrete as a good road material, and it is—but the brick paving indicates the greatest efficiency, even tho the variation is slight. Here is the way the official record reads:

Kind of Road Surface	Miles Per Gal.	Ton Miles Per Gal.
Monolithic brick	3.84	30.72
Concrete in good condition.....	3.83	30.64
Bitulithic	2.86	22.8
Gravel, excellent condition.....	2.66	22.42
Ordinary gravel	2.22	17.8

The last column (ton miles per gallon) is the result

an equivalent level road, and accordingly, the effect of any grades as might occur are eliminated in the above tabulations.

With reference to the official findings, an interesting fact worth considering is that of the bitulithic pavement, the



Dynamometer Employed to Register the Amount of Pull Required to Move the Motor Trucks Over Roads of Different Types of Construction.

patent type of bituminous or asphaltic concrete surfacing. This is frequently compared with brick in various ways, but the results here show that such material is approximately one mile per gallon less in tractive efficiency, with corresponding difference of almost eight ton miles per gallon of gasoline in favor of the brick road. Bitulithic, in this instance, indicates only two-tenths of a mile better than gravel in the best condition, and only six-tenths of a mile above ordinary gravel.

In submitting statements for anticipated road construction, such points as these are worthy of full emphasis, for they illustrate definite facts that are often neglected in a discussion of the merits of different road surfaces. Price in road work is one thing, and the results to be secured quite another.

Further experiments of the Iowa State College, now under way or planned, will be watched with interest. These will include tests both with solid and pneumatic tires; both freight and passenger vehicles; and will be conducted on all types of road surfacing that are found in the state. It is also proposed to determine the extent to which a saving is effected by reducing grades on the primary road system, deciding, if possible, the most economical rate of grade for universal use.



Pittsburgh Section Holds Meeting

A meeting of the Pittsburgh District of the American Ceramic Society was held at the Mellon Institute, University of Pittsburgh, on Tuesday, December 30. Following the election of new officers for the ensuing year, a program of papers was heard.

The papers that were read at this meeting include: "Notes on Glass Refractories," by A. V. Bleininger, United States Bureau of Standards; "Notes on Clay Pits of England," by Thos. H. Sant, the John Sant Stone Co., East Liverpool, Ohio; "Refractory Cements," by Raymond M. Howe, Mellon Institute, Pittsburgh, Pa.; "A Lining for Glass Pots," by Dr. S. R. Scholes, H. C. Fry Glass Co., Rochester, Pa.; "Refractories for the By-Product Coke Plant," by Leon R. Office, Mellon Institute, Pittsburgh, Pa.



The Cleveland (Ohio) Clay Products Co. has increased its capital stock from \$10,000 to \$25,000. Notice of the increase has been filed with the Secretary of State at Columbus.



Army Trucks Furnished by the Iowa State Highway Commission to the Engineering Experiment Station of Iowa State College for Road Test Purposes.

obtained by multiplying the number of miles per gallon of gasoline by the gross load in tons. In the different investigations, the gasoline consumption was reduced to

INDUSTRIAL DEMOCRACY

This Article, the Sixth and Last of the Series on a Subject Which is Gaining Nation-Wide Attention, Sums Up the Opinions of Many Who Studied the Question from Every Angle

By B. C. Forbes

Editor of "Forbes Magazine"

THE LEITCH INDUSTRIAL DEMOCRACY plan is being installed in plants in different parts of the country, and leading trade journals are devoting much space to explaining the system to their industries.

In this way the manufacturers and others who know from experience the value of Industrial Democracy figure that it will be possible to extend the plan on a fairly large scale even at the start and to expand its operation very widely by and by.

As an indication of how efficacious Industrial Democracy is in preventing strikes and other labor troubles, the employes of one plant where it is in use recently passed a resolution, at the time almost every factory in the locality was closed down thru strikes, declaring that they had no grievances whatsoever and recording their deep appreciation of the absolutely fair and square working conditions existing in every department of their establishment.

Dr. Frank Crane, whose daily editorials in leading newspapers thruout the country are so keenly read by millions, devoted a recent editorial to "Industrial Democracy." He said:

"Nothing causes more unmixed joy than to run across a man with an Idea.

"It makes little difference whether it is an Idea for mending clocks or forming a League of Nations.

"The only Big Things in this world that, like Katusha's shoulder-blade, are worth coming miles to see are Thoughts.

"For Ideas are taller than skyscrapers, wider than seas, deeper than oil wells and livelier than fleas. Also better breeders than rabbits. Also more nourishing than bread and more stimulating than booze.

"John Leitch is one of these men with an Idea.

"Of course, he never discovered it. All great Ideas are in the air, so to speak. Their real mother is the Zeitgeist.

"But some man comes along, grabs the Idea, brands it, harnesses it and shows everybody how to drive it. And to him we pay tribute.

"Such a man is John Leitch.

"Like every brilliant conception his is simply the application of common sense to a problem that has been all messed up by passion, prejudice and crazy theory.

"It is this: If your Capital and Labor will drop their fool Class talk, realize that they're both milking the same cow, get together, quit fighting and talk things over, they will have no more quarrel.

FACTS, NOT ISMS WANTED

"Leitch gives facts, not isms. He tells how corporations took up a plan he originated ten years ago, and called 'Industrial Democracy,' and what happened.

"They didn't overturn the government nor liberate the masses. They did a lot better. They got along.

"B. C. Forbes, (Editor Forbes Magazine) who knows what's what in business, is strongly in favor of the Idea. He says:

"Briefly, Industrial Democracy is based on our national form of government. There is set up in each large organization a president, a cabinet, a senate and a house of representatives. The representatives consist wholly of the workers themselves and are elected, by secret ballot, by their co-workers. Before any action relating to hours, wages, piece-work rates, health, production, or, in short, anything whatsoever affecting the workers, can be adopted it must first come before workers and receive their approval."

Leitch shows why the present antagonism between capital and labor must be removed. He emphasizes the fact that the "human heart is just the same behind a worker's shirt or behind a boiled white front; that the day laborer has human joys and sorrows, ambitions and aspirations, just the same as the millionaire."

The Washington Post recently printed a dispatch from Danville, Va., headed "Give 5,000 Workers Share in Profits—Danville Cotton Mills Form Industrial Democracy." The dispatch read:

"Danville, Va.—Industrial Democracy went into effect today at the great cotton mill of the Dan River and Riverside Co. here where more than 5,000 men and women work. This new policy which gives every worker an interest in the conduct of the plant means that where economies can be made and production increased, the saving will be divided equally between the stockholders and mill workers.

"A keen campaign preceded the organization of the house, Clifton J. Parrott, a loomfixer, being elected speaker. There are 117 members, one representative for every 40 workers in each different department, elected by the operatives. The senate is composed of 59 members, foremen and overseers, who assume office by virtue of their position. The cabinet of eight members is made up of the mill executives, H. R. Fitzgerald, presiding. The president of the senate is L. H. Rushworth, and the vice-president is H. C. Morse, a cloth designer.

"Meetings will be held every week in two large halls on the top floor of the mill and the members will be paid while they are in deliberation. The senate will meet in the evening in order not to be hurried. After organization, both branches meet in session and the presiding cabinet officer appeared before a joint assembly and delivered a message. Legislation already proposed includes the resumption of the fortnightly pay roll and the building of a Y. M. C. A. for the Riverside division of mills.

"Dividends will be paid every 30 days and will be based upon the economies and increased production. The new method is expected to diminish the heavy labor turn-over in the local mills. The four governing factors of Industrial Democracy are justice, cooperation, economy and energy, to which 95 per cent. of the mill workers have already subscribed. The new policy is based on John Leitch's theory put into practice in many large mills and factories with successful results."

Right Rev. Charles David Williams, Episcopal bishop of Michigan, preaching in Grace Church, New York, said:

"We have gone thru all the stages of owner and slave, lord and serf, employer and employe. The next step is a co-partnership consisting of employer, employe and the public, the public coming in to regulate both and see that justice is done to all and that the ultimate consumer does not suffer."

THE FUNDAMENTAL CREED OF DEMOCRACY

"Democracy's fundamental creed is confidence in the innermost worth of the undermost man. We have got to have that belief if we are going to discharge our duty in the new day which is upon us. Christ had that vision. The whole gospel is based upon it, and if the Episcopal Church is going to be true to itself it will not falter now. In the democratization of labor and the League of Nations I see the greatest hope for the future, and it is the duty of the church to be allied with every cause which makes for humanity's betterment."

"If Bolshevism comes to the United States—and I

don't believe it will—it will not be thru the I. W. W. or any other of the organizations of that class, but because of the repressions of the reactionaries who are not wise enough to recognize present tendencies and adapt themselves to them."

"The New Republic" devoted more than two pages to a discussion of Leitch's Industrial Democracy, saying among other things:

"While the advantages of the plan are noted, the objection is raised that it does not go far enough, that it does not bring on the millenium industrially. If Leitch had attempted, at this stage of our economic progress, to bring forward a plan embodying all the idealistic theories advocated by scholars and sheer dreamers, he would have accomplished nothing more than the armchair theorizers, for his ideas would not have been accepted by a single industrial plant in the land. Has any of Leitch's scholarly critics accomplished one-tenth as much as he has accomplished in actually bringing employers and employed together on a friendly, profitable workable basis? Practical business men, who have to deal with merchandise and machines and materials and horny-handed workers, are rather tired of the outpourings of parlor geniuses who can theorize beautifully till the cows come home but who would have to have a guide to conduct them thru a factory. Business men want, not mere theories, but actualities, things that will work in this workaday world. Leitch's Industrial Democracy plan works. It satisfies both workers and employers. It is too bad that it doesn't satisfy also the scholars who demand the millenium all at once."



BRICK PRODUCTION *for* REAL RESULTS— *an* INTERESTING HACKENSACK YARD

THE VARIATION AND DIVERSITY in brick production make modern efficiency an absolute essential for real results and profits. Whether the plant is of all-year-round type or seasonal nature has not so much to do with the matter—it is the actual attainments derived when operating.

The yearly plant has certain well-known advantages; it is not affected by weather changes, allows continuous production and accordingly, greater maximum output for annual periods. Yet the seasonal yard cannot be underestimated; many such plants are in service today and bring good results to their owners, and this, if nothing else, shows that there is justifiable reason for operation. It is what the balance sheet exhibits that counts.

Considering brick production in the broad sense, there are numerous features common to all plants from raw material to finished product and such matters as labor, kiln operation, stacking and deliveries are of universal importance. During the past season, there is hardly a yard but has had its difficulties; the scarcity of really good and reliable labor has brought about a keen necessity for the employment of every modern available means to offset this handicap. Mechanical and labor-saving appliances have never been in greater demand, and the most antiquated yard has awakened to the fact that up-to-the-minute methods must be used if results worth mentioning are to accrue.

To some yards the need for equipment of this character is no novelty; long ago, with the vision that obtains under progressive manufacture, these plants understood what was coming—and they prepared. Thus the vagaries of brick

production have been of "spotted" nature, for numerous yards report a good season's run and a good period of business. Others have numerous complaints to offer, but they have not been in the vanguard as regards what was needed for right operation; they have been bringing up the rear, and decidedly to their own disadvantage. The times demand



Motor Truck Typical of the Kind Used by Henry Gardner for Hauling Brick. It Has a Dump Body Arrangement.

that such plants take a grip on themselves; if otherwise, disasters are likely to happen.

It is not only interesting and instructive, but most re-

freshing to encounter a plant in a territory given over to brick production for years gone by that has advanced with the trend of the times; that has kept pace with the demand for utmost efficiency in production, and really made this word "efficiency" mean what it should.

At Hackensack, N. J., and vicinity, brick manufacture



Rack and Pallet System of Drying Such as Is Used on the Gardner Plant.

dates back for many, many years. The plants are of seasonal character and while some have stepped forward, others have stood still. The former are interesting from the viewpoint of what is actually being accomplished, while the latter bring attention only as a matter of history, and with the speed at which the world moves, there isn't much time for reflection.

A REAL BRICK MAKER

In the Hackensack district, at Little Ferry, one of the progressive yards is ornated with the shingle—"Henry Gardner, Brick Maker." And it is true in every sense of the word; this plant makes brick, knows how to make good brick, and mixes brains and common sense with production. It has rounded out a good season, and there's a reason; Mr. Gardner has left no stone unturned for effecting the desired results. He has been on the job incessantly, and now, instead of a "waiting period" for next season, he is planning just what must be done thru the winter. Every season shows its improvement and progress; every season goes the former year just one better.

This plant has a fine location, with production facilities for over half a million brick. Near the yard, and within ready hauling distance, large clay deposits are available, producing a blue leaf clay that goes to make a high-grade brick. These clay beds extend for a distance of about 500 ft. and are easily worked by means of machine shovels. To enhance production during the coming year, an order has recently been placed for a new Thew gasoline-operated shovel for this department of operation.

The mixing department consists of six pits of capacity to allow for an output of about 40,000 brick per day, but this is to be increased at an early date, for as Mr. Gardner says,

with present demand it is far too small. The pug mill equipment is arranged with a system of overhead shafting for operation, the main shaft extending for the clear distance of the mixing department, and with countershafts as required.

The mechanical system is operated by an individual boiler plant, comprising a 150 horsepower unit, with auxiliary equipment; a fine pumping system has been installed, with capacity of about 5,000 gallons per minute, for draining the clay properties.

The brick machines are located near the mixing quarters and at a lower level to allow ready handling, under gravity operation, of the body. The outdoor drying system comprises a series of the well-known pallet racks, as shown in the accompanying illustration. The present capacity of this department averages about 43,000 brick per day for every eight days.

Fine facilities are provided for kiln construction as required, under the common arch system, and adjacent to this department, extensive stock sheds are arranged. These sheds front on the main highway, facing the plant, and allow for prompt handling and shipment. In this work, motor-trucks have been a predominating factor and, in fact, practically all the brick shipped from this district used this means of transportation during the past season.

Two motor trucks have been used constantly by Mr. Gardner, and to enhance deliveries, a third truck has just been purchased. A truck, typical of the type in service, is shown in the accompanying picture; with dump body arrangement, this style of motor truck presents the "last word" for reasonable distance hauls. Large shipments by this means have been made during the months past to different points in northern New Jersey, including Newark, Paterson, Passaic and surrounding territory.

A prominent feature of this brick yard is the order and cleanliness which prevail—system is the word of the day, and there is no dirt, discarded brick or refuse laying about to interfere with operation. An idea of the orderly arrangement is obtained from the pictures here reproduced. Even minor phases of operation carry this same spirit of neatness, and that it helps materially is shown by the accomplishments.

Even tho considerably handicapped by the labor situation, the yard has been keeping such good men as could be obtained. The piece-work method has been employed in this connection, and has proved quite satisfactory; it was the only way out of the difficulty, and the men have been satisfied and likewise the plant. About 50 men have been engaged, on an average, during the season past.

Mr. Gardner is optimistic as to the outlook in the industry; so much so, that he has plans in mind to practically double the capacity of the yard during the coming year. That no expense or effort will be spared to bring about the right operating conditions is assured, for this is the policy of the plant. That it is the best policy is exemplified by the attainments—while other yards may stand still, this yard is forging ahead.

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Again, We Thank You!

Since publishing its acknowledgement of greetings and calendars received, on page 46 of the New Year issue, *Brick and Clay Record* has received a very useful signature blotter from the Geo. H. Clippert Bro. Brick Co., Detroit, Mich., and beautiful calendars from the North East (Md.) Fire Brick Co., the Tuttle Brick Co., of Middletown, Conn., and the General Electric Co., Schenectady, N. Y. Greetings have also come in from Mr. S. Geijsbeek, of Portland, Ore.

All of these are greatly appreciated and *Brick and Clay Record* thanks you, and extends the season's greetings to you.

HOW *the* FREIGHT RATE CASE STANDS TODAY

Steps in the Preparation of the Formal Complaint to be Presented to the Railroads Shortly, Because of Discrimination Against the Clay Products Industry With Regards to Rates—Paper Read December 2 at the French Lick Convention of the American Face Brick Association

By M. F. Gallagher

of Gallagher, Kohlsaat & Rinaker, Chicago

ABOUT March 1st of this year, Francis B. James and I were employed by the American Face Brick Association, the National Paving Brick Manufacturers' Association, and the Hollow Building Tile Association to institute a proceeding before the Interstate Commerce Commission for a general revision of the rates on brick and tile. This step was the result of the abnormal advance in rates on brick and tile ordered by the General Director—abnormal when compared with the general advance of 25 per cent. on other traffic, and the conviction that clay products were even prior to that advance bearing more than their fair share of the cost of transportation. After many meetings with the Joint Traffic Committee, a complaint was prepared.

It developed in the study of the case that there was no uniformity in the rates on this traffic; that the rate fabric lacked harmony; that anomalies, injustices and discriminations abounded everywhere; that in various parts of the country there were no commodity rates, a condition which required the application of class rates; that many plants were excluded from their natural territory by prohibitive rates; that rates were not fairly related as between points of production; that hundreds of rates were out of line, governed by no principle or reason. The complaint, comprehending all points of production and every market in the country, present or potential, and including rates on face, paving and common brick, clay and hollow building tile attacks the general advance of 40 cents a ton as unfair and excessive, sets forth in as much detail as was then possible the railroad earnings on brick as compared with other traffic, and prays for a general revision and new structure of rates, the measure or level of the rates to be just and fair as compared with the rates on other freight traffic; that commodity rates be ordered in where there are now no commodity rates, and that all maladjustments, inequalities and discriminations be investigated and corrected.

TO BE HEARD BY COMMISSIONER DANIELS

Dealing with a subject so vast and of such scope, the complaint was necessarily somewhat general, and exception was taken on that account by the carriers. After conference between Mr. James and Commissioner Daniels, to whom the case had been referred, it was arranged that an appendix to the complaint be filed, setting forth typical instances of rates considered abnormal and excessive, and typical instances of the discriminations that should be

corrected. This appendix was prepared and filed. The answer of the railroads is due, but has not yet been received. The commission received the case as one of great importance. It is expected that the case will be heard by Commissioner Daniels in person, instead of an examiner, a procedure adopted only in very important cases. The hearing will probably be in February.

The preparation of the evidence in behalf of the industry has been steadily going on since the case was filed. The first important step was the sending out to all plants of elaborate questionnaires. A check of the questionnaires returned shows: That the National Paving Brick Manufacturers' Association had 75 members, 71 of which answered the questionnaires; the American Face Brick Association had 95 members, 47 of which answered the questionnaires; the Hollow Building Tile Association had 84 members, 24 of which answered the questionnaires. In this connection it must be noted, however, that several of the members of the various associations operate a number of plants and have filed questionnaires for each plant. It must also be noted that some companies are members of two or more associations and filed one questionnaire to cover all of their products. There has been received to date a total of 127 questionnaires. Some of these were not received until the latter part of October, 1919. A number of them, when received, did not contain any information as to shipments; others failed to show mileage and rates. We have had these which did not show mileage or rates, but showed destinations, cars and tons, completely filled in, and these are now being tabulated. The questionnaires which show the complete data covered shipments of over two million tons of brick, and from these the information which I am about to give you was derived.

I might say at this point that in the preparation of the evidence, we have been assisted by George W. Oliver, for many years chief statistician of the Santa Fe Railroad, and by Mr. Coker, of Washington, who has made for us a compilation of all tariffs on brick and tile covering the country and also the rates on other carload traffic. Mr. Oliver deals with the revenue; Mr. Coker with the tariff rates.

THE INCREASES IN FREIGHT TRAFFIC

Figures made from the questionnaires which cover shipments of 2,236,950 tons of brick show that in 1919 \$2,612,677 was paid out as freight charges; that under the

present rates for the same shipments the freight charges would be \$3,765,364, an increase of \$1,152,687, or 44 per cent. During the same time on all other freight traffic, the increase was approximately 25 per cent., except in the Eastern District, where just prior to June 25, 1919, there was also one general advance of 15 per cent. This 15 per cent. advance on all commodities did not affect western or southern territories. In the Southern District brick was advanced 32.6 per cent. from 1916 to the present time. In the Western District brick was advanced 32 per cent. In the Eastern District, allowing for the 15 per cent. advance, which affected all freight, the advance on brick under Order No. 28 amounted to an advance of about 33 per cent. over the rates which were in effect immediately prior to June 25, 1918.

Mr. Gallagher then gave figures comparing the railroad earnings on brick with earnings from other traffic.

In checking up actual rates on intra state business it appears that the rates in the East are higher than in the West. For example: The average haul in Pennsylvania is 92 miles; the average rate \$1.56. The average haul in Ohio is 85 miles; the average rate \$1.34. The average haul in Indiana is 84 miles; the average rate \$1.27. The average haul in Illinois is 93 miles; the average rate \$1.18. The average haul in Missouri is 95 miles; the average rate \$1.15. The average haul in Kansas is 151 miles; the average rate \$1.59. The rates seem to get lower the farther west from Pennsylvania we go until we reach the state of Kansas. In Oklahoma for an average haul of 110 miles, the rate is \$1.44, and in Idaho the average intra state haul was but 29 miles, and the average rate \$1.09.

The length of haul on the interstate business from the various states differs so greatly that it is more difficult to check the grading of the rates. For example; the average haul interstate from Pennsylvania was 309 miles, and the average rate \$2.46; while in Ohio the average haul was 268 miles; the average rate \$2.12. In Indiana the average interstate haul was 230 miles; average rate \$1.72. Illinois 227 miles; average rate \$1.73. A Missouri average haul was 486 miles and the average rate \$2.68. West Virginia, the average haul was 507 miles, with an average rate of \$2.62. Kansas, average haul 205 miles; rate of \$1.72. The average for all of the states was 289 miles, present rate; average rate is \$2.12.

In all of these states there is a great lack of uniformity in the rates. The questionnaires show that in a block of ten miles there will be a difference of as high as 70 or 80 cents per ton in the rate, and also shows that the same rate will apply for distance where there is a difference of 75 to 100 miles.

The information to be furnished by the carriers has not yet been received, and the comparisons which we have been able to make so far have been with all freight as reported to the Interstate Commerce Commission by all of the carriers, and comparisons with commodities upon which we have had data in connection with other cases. The carriers have agreed to furnish us with certain information for various lines on specific commodities, and when that is obtained we will be able to compare the earnings on brick in districts served by said carriers with the earnings on other commodities, such as cement, lumber, coal, grain and so forth.

In framing the new rate structure reasonable rates will be constructed for the various plants or groups of plants to important markets, and that the rates to other points will be related to the most important or key markets, proper regard being given to relationship between the various plants in groups.

BRICK RATES TOO HIGH IN COMPARISON

We expect to show that in 1916 our rates on brick were too high, as compared with the rates on other commodities and that this disparity against brick was greatly increased by adding 40 cents a ton to the brick rates, while other commodities were advanced but 25 per cent., and so far as the general level of the rates is concerned, the figures that we have so far compiled would tend to show that if the 40 cents a ton advance was removed from the brick rates, we would then be paying our fair share of the transportation charges of the country in comparison with what is being paid by other commodities.

In developing the relation of revenue from brick to other traffic, we have given attention to the question of the loading of brick as compared with other commodities, the risk assumed by the carrier as shown by the figures on loss and damage claims paid; as for example, the questionnaires submitted show practically no loss and damage claims paid to the brick manufacturers, while other commodities show payment of from one-half per cent. to over three per cent. of the total transportation charges in loss and damage claim. The figures of the Rock Island, the C. B. & Q. and North Western show that they paid 17/100 of one per cent. in loss and damage claims on brick, while on cement and lime 58/100 of one per cent. was paid, and on live stock 318/100 per cent. was paid. On grain 289/100 per cent. of the total freight revenues was paid out in claims. On all freight on all the Class 1 roads of the United States 1½ per cent. of the total freight revenues was paid out in freight claims. In other words, in 1915 it shows that over twenty-nine and one-half million dollars was paid out by the carriers in the United States for loss and damage claims.

We are comparing data which compares rates on brick from representative producing points, with the rates upon other freight on the carriers serving such points for actual hauls of such other freight. This work has not been completed, but the results so far tend to show that brick is paying more for the same length haul than other freight, the revenue per car mile on brick being substantially in excess of the revenue per car mile on such other freight.

At the hearing of the case it probably will be necessary to call witnesses from all over the country to testify regarding their individual needs in the way of rates, and what are their principal markets or territory that they feel they should normally and naturally be entitled to reach. Our object is to secure a line of commodity rates on brick and tile over the entire country that will give the manufacturer every opportunity to move his product in competition with other materials and in fair competition with each other.

It cannot be denied that differences of opinion have been expressed as to the method of constructing rates on this traffic. Some manufacturers believe that there should be relatively low rates on long haul business and a fairly narrow differential between the more distant plants in close proximity to the market. Other manufacturers believe that the plants in close proximity to the market should be given the full advantage of their nearness to that market, and that it is an economic fallacy to make or ask for a rate upon which the carriers cannot make a fair return, just in order to move brick in competition with a man who has the short haul to the market. This little group of manufacturers feel that if the rates for the relatively short hauls were held down to a reasonable level, and the business confined to a district within comparatively a short distance from the factory, that the business in that district could be in-

tensively built up and so avoid a lot of long haul brick business, which they say, tends to disrupt the market.

CONSIDERING THE MILEAGE SCALE

The subject of a mileage scale has been thoroly discussed and is still under consideration. The carriers may propose a mileage scale. In dealing with a mileage scale many questions arise:

1. What should be first block of miles for minimum rate?
2. In what number of miles should blocks progress?
3. What should be number of cents in progression of dates from block to block?
4. Should country be divided into sections or districts for different measures of rates, and if so, how?

The sentiment among your traffic men seems to be, to oppose a structure of rates based on mileage, as wholly unsuited to the actual conditions of the industry. It can never be forgotten that the making of rates is a business question to be dealt with, not by theories, but in constant view of actual conditions. The industry cannot be made over to fit a rate structure. A rate structure fair to the carriers, can be worked out that will fit the conditions of the industry. As to a mileage scale, it is argued that it would not apply to the brick industry. A strict mileage scale would disrupt the existing group arrangement. It would prohibit some of the manufacturers from reaching the markets in which they now do business because the mileage from one manufacturer via the carrier serving such other manufacturer might be considerably shorter. This situation is always present where there is a net work of railways as in the Eastern District and in many portions of the Southern and Western Districts. The plant is located on a line having a long haul and under strict mileage could not compete with a plant in the same vicinity having a short haul to a particular destination. Unless the mileage between the producing and all consuming points are published, it would be impossible for anyone to figure what their rate would be. The shipper might figure one mileage for a workable route and the carriers another mileage. A mileage scale would tend to localize business to a very great extent for if the first blocks or mileage are made on a reasonable figure, the more distant haul business could not move into any territory in competition with a short haul manufacturer. It has been stated that an inflexible mileage scale of rates would put some plants out of business.

In the meetings with the Joint Traffic Committee, certain conclusions have been reached. It has been tentatively decided to ask for the application of the same rate to a specified list of clay products, to be known as "Burned Clay Products Commodity List," which is as follows:

BURNED CLAY PRODUCTS COMMODITY LIST

Brick or Block, Building or facing, except enameled.
Brick, Fire All Grades.
Brick or Block, Common, Solid or Hollow, or perforated.
Brick or Block, Paving, Shale or Fire Clay.
Brick, Salt Glazed when shipped in same manner as building or facing brick.
Ground Clay, Ground Shale, or Ground Fire Clay.
Blocks, Vitriified Segment.
Blocks and Slabs, Silo, Radical Chimney.
Conduits, Clay Shale.
Slabs, Tile, not roofing or ornamental, loaded loose in cars, individual slabs not being packed.
Tile, Hollow Building or Fireproofing.

The matter of minimum loading has also been thoroly discussed and the following conclusion reached:

MINIMUM

Agreed that attorneys be instructed to contend for minimum car loading of 50,000 pounds unless marked capacity of car less, then marked capacity to govern.

Absolute justice in human affairs is an unrealizable dream. Approximation to justice in the rates on brick and tile is all that can reasonably be hoped for. As a result of this case it is expected that where inequalities, injustices and indiscriminations now exist in the rates as between plants that they will be corrected in a just and reasonable manner. The adjustment must be fair as between plants. The basis of rates will be worked out in view of industrial, commercial and competitive conditions. Just and established differential relationship should not be disturbed unless strong and compelling reasons exist.

Where there are now no commodity rates, such rates must be put in because of the character and nature of the traffic. Where switching charges are proper and have been superseded by road haul rates they should be restored.

Certain findings will be made and conclusions announced by the Interstate Commerce Commission that will serve as a basis for determining the general level of brick and tile rates in all parts of the country, measured in comparison with earnings on other carload traffic so that this industry will pay no more than its just proportion of the needed railroad revenue.

Facts will be established, and standards, measures and principles laid down that will be of general and permanent value.

CONVENTIONS IN PROSPECT

January 20, 21 and 22—Canadian National Clay Products Association, Prince George Hotel, Toronto, Ont.

January 21—Kentucky Clay Products Association, Old Inn Hotel, Louisville, Ky.

January 22—Oregon Clayworker's Association, Portland, Ore.

February 3 and 4—Sand Lime Brick Association, Lafayette Hotel, Buffalo, N. Y.

February 3, 4 and 5—Nebraska Brick and Tile Association, Lincoln Hotel, Lincoln, Nebr

February 12 and 13—Wisconsin Clay Manufacturers' Association, Republican House, Milwaukee, Wis.

February 16, 17 and 18—Common Brick Manufacturers' Association of America, Deshler Hotel, Columbus, Ohio.

February 18, 19 and 20—National Brick Manufacturers' Association, Deshler Hotel, Columbus, Ohio.

February 23, 24, 25 and 26—American Ceramic Society, Bellevue-Stratford Hotel, Philadelphia, Pa.

LUBRICATION PRINCIPLES

Part II. A Discussion of Physical Tests for Lubricants As Well As the Qualities Most Desirable for Various Uses

By Robert June, M. E.

ATTENTION WAS CALLED in our last discussion to the very great importance attaching to the proper selection of lubricants for the various services about a plant. It was stated that this importance did not lie in the opportunities to effect savings in oil, but savings in power, thru reduction of friction losses. Sufficient emphasis can hardly be laid on this point, for discriminating choice of lubricants may result in savings in power sufficient to pay the oil bill several times over each year.

We have already dealt with the general characteristics of a good lubricant, and with chemical tests for determining the presence of impurities and adulterants. It remains to discuss the physical tests of lubricants, and the qualities most desirable for various services.

DESCRIPTION OF PHYSICAL TESTS

The following are the physical tests of lubricating oils commonly employed:

Color, Odor and Specific Gravity: These are of value to the specialist in identifying the sample of oil but they are of little practical value to the majority of operating engineers, and need not be described.

Flash Point: The flash point of an oil is that temperature to which an oil must be heated at a given rate so that enough fluid is freed from its surface to be momentarily ignited when a small flame is applied to it. The Cleveland open cup tester is the instrument commonly used for this purpose. A thermometer is suspended in the oil which is slowly heated; the test flame is applied at every rise in temperature of 5 deg. Fahr., until the flash occurs.

Flash point is determined as a measure of the oil's volatility. With steam cylinder oil it is of primary importance, the required flash point depending on the temperature of the steam at the engine. In the case of oils for bearings, flash point is important because it indicates the presence of volatile kerosene or naphtha, with accompanying fire risks. Plant blazes are always apt to occur with oils of low volatility if used in bearings, and this possibility should be guarded against, if possible, in the selection of oils.

Fire Point: The fire point of an oil is that temperature to which it must be heated at a specified rate so that active combustion will take place and continue when the small flame is applied to its surface. Naturally, its temperature is above that of the flash point. It is usually found to range from 3 deg. Fahr. to 65 deg. Fahr., and in light lubricating oils, to about 40 deg. Fahr. Fire point, like flash point, is of value when oils must be selected for service at high temperatures.

COLD TEST APPLICABLE IN WINTER

Cold Point: While the term "cold point" is commonly used, it is apt to be misleading inasmuch as two cold points are commonly determined—first, the cloud point, which indicates the point of separation of the tiny particles of paraffine in oils of that base. And second is the pour point, which

indicates the lowest temperature at which the oil will run. These two cold tests are of value only where oils must be used under conditions of very low temperature and need not ordinarily be made.

Emulsion tests are made in four runs:

To 40 cc. of oil in each case is added 40 cc. of distilled water for first run; 40 cc. of brine for the second run; 40 cc. of normal caustic-soda solution for the third run; and 40 cc. of boiling distilled water for the fourth run. In each case the mixture is stirred with a paddle at very high speed, say, 1,500 revolutions to a minute. The oil should be kept at a temperature of 130 deg. Fahr. during the test.

The salt water and normal caustic-soda solution test need only be made where there is a possibility of water containing boiler compounds getting into the system. The boiling distilled water test is to be made only where there is a possibility of steam or water at high temperature getting into the oil system. The great importance of this test lies in the fact that where emulsification takes place with any type of forced lubrication there will follow clogging of oil lines and a formation of solids in the base of the bearings, with consequent large losses of oil and greatly increased friction.

Viscosity: Viscosity is the most important physical test of an oil. It may be defined as a measure of fluidity or body. Its value depends upon the internal friction between the particles composing the oil and their resistance to separation. Viscosity is really a measure of rate of flow of an oil at a predetermined temperature thru an orifice of standard size. It follows that the viscosity of an oil is inversely proportional to its fluidity.

IMPORTANCE OF VISCOSITY TESTS

All operating engineers have had bearings of machines under their care which increased in temperature when in operation, to a certain point and remained at that temperature under normal working conditions. It is not uncommon to find bearings unusually warm and yet causing no worry or anxiety to the engineer in charge, because he knows that these bearings will not heat to any higher temperatures. These conditions are not evidences of satisfactory lubrication, because frictional heat in a bearing is an indication of loss of power due to excessive frictional load; the power absorbed by friction having been transformed into heat. The causes of the high temperatures in the above described bearings may be credited largely to the viscosity characteristics of the lubricating oil in use. The viscosity of the oil was too high to give satisfactory results when the bearings were developing normal running heats, and therefore the bearing was required to develop sufficient heat to reduce the viscosity of the oil to a working value, which allowed it to freely flow into the bearing. With better circulation, the oil was able to balance the production of frictional heat by carrying it away as fast as it was created.

This illustration shows the necessity of using viscosity values, not as a direct guide to the selection of a lubricant,

but as an indirect guide. The method of selection of an oil from its viscosity characteristics must be based upon the temperature at which the oil will be expected to work, which in the case of a bearing will be normal working temperature of the bearing. At this working temperature the viscosity of the oil should fulfill the mechanical and lubricating requirements of the bearing.

By plotting the viscosity-temperature curve of an oil, this selection may be simplified and comparisons made quickly with other oils. An example of the practical use of this method is given as follows:

"Assume an engine bearing to have a normal running temperature of 105 deg. Fahr. when the engine room temperature is 85 deg. In this case certainly no heat will pass from the air into the bearing. With the exception of the small amount of heat carried away by the engine frame, the 20 deg. excess temperature is a measure of the frictional heat developed in the bearing, and this frictional heat is a measure of wasted energy. If an oil is selected, by means of its viscosity curve, produced from the same crude and having the same viscosity at 85 deg. Fahr. that the oil in use has at 105 deg. Fahr. the friction in the bearing will be reduced, because there will be no necessity for the viscosity of the second oil being reduced to meet the mechanical requirements of the bearing."

It is by far the most efficient practice to use an oil having the lowest viscosity that will insure the maintenance of the lubricating film in a bearing, and excessive viscosity is as much to be avoided as an insufficient supply of oil.

VISCOSITY IN STEAM CYLINDER LUBRICATION

In the case of steam cylinder lubrication, the viscosity tests of cylinder oils have very little bearing upon the actual lubricating value of the oil.

It has become the custom of engineers and chemists to compare the viscosities of cylinder oils at a temperature of 212 deg. Fahr. (by some at 210 deg. Fahr.). A viscosity at this temperature is totally useless as an indication of the lubricating value of the oil, since no cylinder oil is ever called upon to work at this low temperature. Steam at only 75 pounds pressure has a temperature of 320 deg. Fahr., while at the usual pressures the temperatures are much higher, as follows:

125 pounds to the square inch.....	353 deg. Fahr.
150 pounds to the square inch.....	366 deg. Fahr.
225 pounds to the square inch.....	397 deg. Fahr.

It has been found by actual tests that the viscosity of cylinder oils are practically the same at 400 deg. Fahr. and upwards. Therefore, this test is as stated, of little practical value for cylinder oils and attention is here called to it simply for the purpose of preventing a loss of time in making it.

Friction Tests: These are sometimes made in special testing machines but the results obtained are of little practical value in widely varying conditions found in actual service.

From what has been said on the subject of physical tests of an oil, it will be seen that service tests must often all be the main tho not the only reliance of the operating engineer; here different oils are tested out under actual working conditions and the lubricant best adapted for the particular service is determined by the process of elimination. There are, however, certain general characteristics of oils best adapted for particular service and these we will take up briefly.

Steam Cylinder Lubrication: The chief requirements of a lubricant for cylinder oil where superheated steam is used, are high flashpoint and good body. Since there is practically no moisture with superheated steam, it is recommended that

the lubricant be a straight mineral un compounded oil of the highest possible viscosity and flash point. Where steam is not superheated, there is apt to be some condensation on the bottom of the cylinder. In order to aid the emulsification of cylinder oils with the steam, they may be sometimes compounded with acidless tallow oil. They should never be compounded with "degras" (wool grease). The percentage of tallow allowable for the compounding purposes is from 3 per cent. for fairly dry saturated steam, to 10 per cent. for low pressure and wet steam and long uncovered lines where the percentage of moisture in the steam will be high.

Cylinder oils should be fed into the steam lines at least three feet above the throttle valve, thereby insuring proper and complete atomization. Care should be taken that cylinder oils which have passed out with the exhaust steam and have been received by the hot well, do not enter the boiler with the feed water.

NOTES ON BEARING LUBRICATION

Hand Oiling: Hand oiling is very wasteful as the oil can only be recovered by means of drip pans. Grit and dirt often give considerable trouble when hand-oiling is used and the close attention necessary to maintain any sort of efficiency from a lubricating standpoint makes hand oiling dependent entirely upon the personal efficiency of the operator.

Oils for Circulating Systems: Lubricants used for continuous feed oiling should be strictly neutral filtered oils. Paraffine, base or treated oils should be avoided, because of the possibility of emulsification from the frequent churnings and the possibility of moisture getting into the system and from other sources.

Gravity Oiling Systems: Combination oil cups and sight-feed needle valves should be used at all points of lubrication. Oil cups should always be kept full and ready for use in case the circulating system fails. In large installations it is well to take a sample of the oil in use, and from time to time take a test as the need for fresh oil can be quickly determined by noting the increased high viscosity. For all gravity feed systems the point of entry of the oil to any bearing should be at the point of minimum pressure.

Forced Feed Lubricating: Care must be taken not to introduce the oil into the bearings at such points that it will pass thru low pressure areas of the oil films, causing counter currents in the films and escaping, without carrying off its proper share of frictional heat. When plenty of oil is being circulated, probably the best place to introduce the oil is on one of the lower quarters. Lubricants used in all forced-feed oiling systems must be neutral, filtered and absolutely non-emulsifying. For the usual turbo-alternator installation, an oil of 150 to 180 Saybolt viscosity at 100 deg. Fahr. will give the best results. The oils should have a low-gumming test and be free from all impurities. Treated oils are not satisfactory.

Ball Bearings: The lubricant used in ball bearings must be neither acid, nor alkali, but must be neutral. A simple test for ball-bearing lubricants may be made by coating a highly polished steel surface with the oil or grease under observation. After exposing it to the heat of the sun for several days, any corrosive tendencies will be evident upon the polished surface of the plate. Oil containing any compounding of animal or vegetable oils should never be used in ball bearings, as it will produce gumming and become rancid. The best lubricant for these bearings is a strictly mineral oil. For high-speed bearings, a light machine oil should be used, and for slower moving bearings use a heavy viscous oil or a straight petroleum grease. Petroleum

greases have poor viscosities, however, and quickly run out of the bearings. Well-designed bearings are provided with suitable retainers for the purpose of holding the lubricant in the bearing and preventing its creeping out along the shaft. Engine grease or cup grease should not be used in ball bearings unless it is carefully tested for the presence of free alkali, which will pit and corrode the bearing if present. Greases should not be used in ball bearings running at over 1,200 r. p. m. Graphite is not satisfactory for use in ball bearings, because of its tendency to pack. Oil is the best all-around lubricant for these bearings.

Ball bearings should be frequently flushed out with gasoline to keep them clean.

Roller Bearings: Heavy body oil and medium grease should be used for the roller bearings when the speeds are low; but under normal conditions the speeds are high and

will allow the use of machine oil. When oil is used it should be strictly filtered and neutral, and free from any emulsifying tendencies.

MOTORS AND DYNAMOS

The same principles govern the selection of an oil for use in the self-oiling bearings of electric machines as is used in the selection of an oil for high-speed engines, having splash-feed bearings. The body of the oil will, of course, vary with the size of the machine. The viscosity should be as low as possible. The oil should have only sufficient viscosity to permit the rings to carry enough of it up to the bearings, to provide ample oil for lubrication, and should be sufficiently free-flowing to permit the free delivery of the oil from the rings to the journal. The viscosity of the oil must also be low enough to permit of its free circulation and cooling when it is in the reservoir.



A. C. S. PLANS BIG MEETING *in* PHILADELPHIA

“AMERICAN CERAMIC SOCIETY Holds the Greatest Meeting in Its History,” was the head and “Record Breaking Attendance of the American Ceramic Society Convention in Pittsburgh on February 3 to 5, is a Fitting Close to a Wonderful Year of Progress of this Organization. Plans for the Future Indicates That There Will Be No Let Up in Activity—the Coming Year Shows Promise of Revealing Still Greater Development,” was the sub-head of the report of the twentieth annual convention of the American Ceramic Society which was held in Pittsburgh, in February, 1919.

Each succeeding convention of the past few years has shown wonderful strides in the reorganization of the American Ceramic Society on much greater plans. However, the peak has not been reached yet, according to a study of the plans for the 1920 convention which will be held at the Bellevue-Stratford Hotel, Philadelphia, Pa., from February 23 to 26. The announcement of the American Ceramic Society program shows that there will be a still further step in the development of the above society.

The general plan of the meeting will be somewhat changed so as to conform to the increased specialization of the members. The usual business meeting will be held on Monday morning, February 23, and a program of diversified interests will be given in the afternoon. On the second day the industrial divisions will hold special meetings, running as far as possible upon a time schedule. On the third day there will be the closing up of business. This should leave Wednesday and Thursday morning for inspection trips.

It is also proposed to hold an afternoon devoted to the presentation and discussion of data on tunnel kilns and all members who have had experience with tunnel kilns are requested to notify the chairman of this committee if they will present data on operation. Undoubtedly, this special session on tunnel kilns is due to the great popularity of this type of kiln during recent years.

Each industrial division is urged to arrange a full program and each member is requested to bring forward some contribution from his own work and experience. By the proposed plan of holding these industrial sessions separately, many more papers will be needed than usual and each person will be given the opportunity of attending those sessions at which only subjects of direct appeal to his own line will be given.

There has been published in the Journal of the American Ceramic Society, forty-two papers which have not been read before the Society. Of these, two are on cement and lime,

two on enamels, two on geology, fourteen on glass, six on porcelain, six on refractories, and eight general articles. A discussion of these contributions is especially invited at the coming convention.

A large attendance is expected at this meeting because of the great expansion in membership and the increased interest in ceramics. Hotel reservations should be made immediately because Philadelphia Hotels are usually crowded in winter. Besides the program of technical interests, arrangements are being made for a banquet and other social functions.

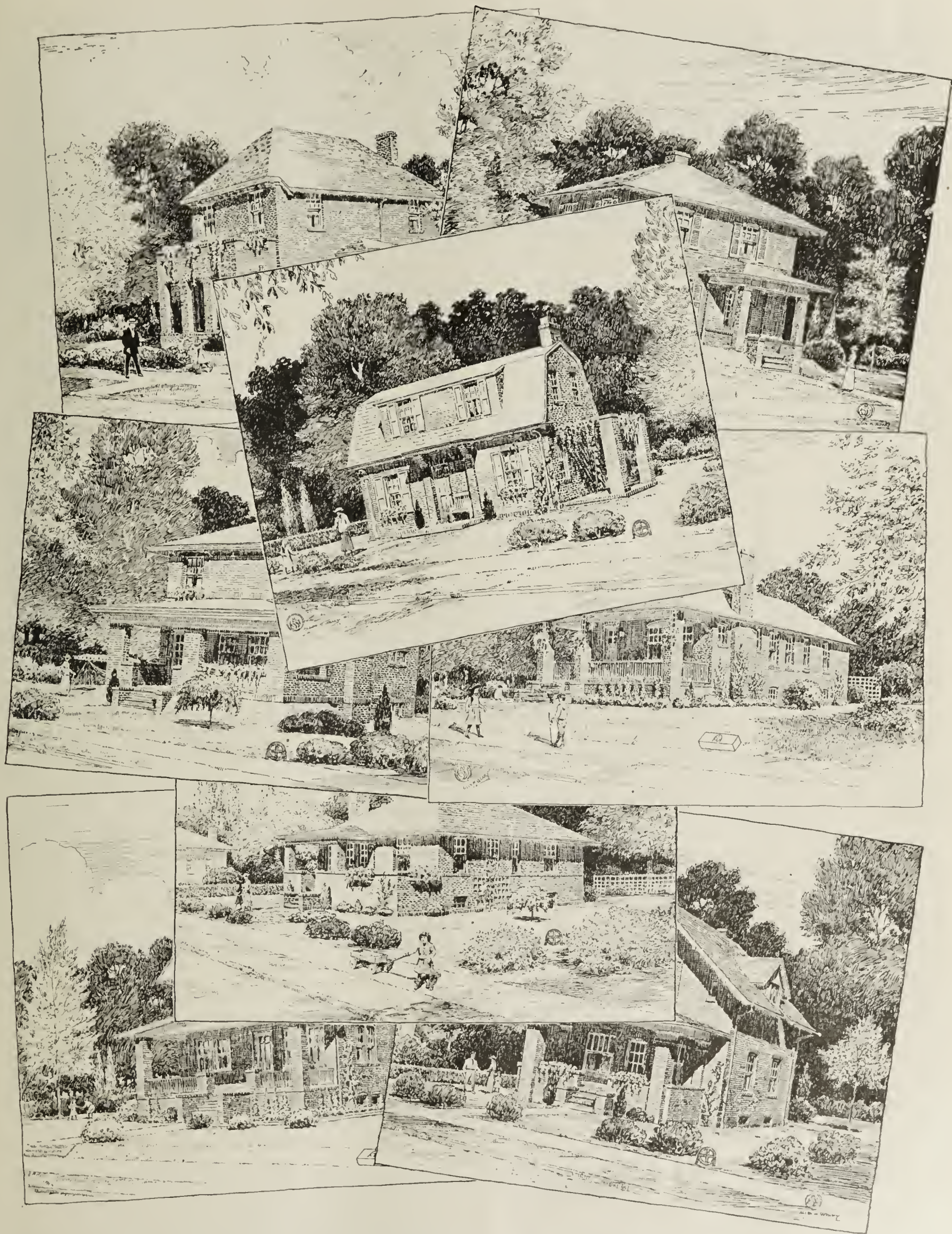
Frederick Stanger, manager of the Enterprise White Clay Co., is general chairman of the local committee. Sub-committees have been appointed to assist him. Wm. E. Saunders, of the United Gas Improvement Co., is chairman of the committee on the banquet. W. H. Fulweiler, of the same company, has charge of arrangements for a smoker or “Section Q.” D. H. Applegate, Jr., of the Philadelphia Textile Machinery Co., is chairman of the committee on hotel reservations. C. A. Hall, of the Pennsylvania Salt Manufacturing Co., is making arrangements for the meetings, equipment, etc. George F. Pettinos, of Pettinos Brothers, has charge of the Information Bureau, and John P. Goheen, of the Brown Instrument Co., is arranging for trips of interest to be taken after the close of the meeting.



Preparing Book on House Designs

Among the many activities of the Common Brick Manufacturers' Association, is the preparation of a booklet which will contain sketches of thirty-two different types of houses built of solid brick. Plan views as well as full specifications of the home will also be incorporated in the book. It is also planned to use these sketches together with a drawing of the floor plans in the advertising copy of the Common Brick Manufacturers' Association which will be distributed shortly.

There has long been felt a need for supplying designs and plans for homes such as would appeal to the average workman. Brick has been too frequently regarded as too expensive for this class of home. However, statistics obtained by the Association have shown that brick homes can be constructed at a cost that will be cheaper in the long run to the prospective builder. Part of the book is devoted to the education of the workman to the use of brick. Frame construction will not be regarded at all in the plan book.



Sketches of Eight of the Thirty-two Different Types of Houses Which Are to be Incorporated in the Book Now in Preparation by the Common Brick Manufacturers' Association of America. These Houses Are Designed to be Constructed of Solid Brick and Are Low Cost Homes Such as Would Appeal to the Average Workman. Plans and Complete Specifications of Each Design Will be Obtainable From the Common Brick Manufacturers' Association of America at a Nominal Cost.

This work will not in any way conflict with or create the antagonism of architects. The scope of this work has been completely gone over with the National Institute of Architects who have approved the scheme. It has been learned that the architect does not seek the business of a customer who wants to build small homes. Furthermore, all of the house plans have been submitted to the above association and approved by it as meeting with the proper standard of architecture.

The new booklet which is in preparation now and will be ready for distribution about the first of April, contains thirty-two sketches of homes of a wide range of difference in design, together with floor plans. The prospective customer by glancing thru this booklet can then pick out the type of home he desires and by writing to the Common Brick Manufacturers' Association secure complete drawings and specifications at a nominal cost for that particular home. These plans and specifications will then have to be submitted to the contractor directly who can build the home without any further reference to architects. Sketches of eight of the thirty-two house designs are illustrated in a cut neighboring this page. Every drawing and design bears the trademark of the Common Brick Manufacturers' Association of America.



Short Course a Success at Alfred

Fifteen men coming from every part of the State of New York braved weather that ranged in temperature from zero to twenty-one degrees below to attend the short course and meeting of the New York State Section of the American Ceramic Society, which was held at the Alfred University, on December 15, 16 and 17.

The session was a decided success from every point of view and the number in attendance was remarkable considering the distances traveled and the very frigid weather. The enthusiasm was high and it was felt that in addition to the pleasure of renewing old acquaintances, much profit was derived from the information given in the various lectures.

The following program was given in full. On Monday, December 15, C. F. Binns, director of the New York State School of Clayworking and Ceramics discussed "Developments and Prospects in Ceramics." Next he gave a laboratory demonstration of deflocculation and elutriation. J. B. Shaw and G. A. Bole, of the above school, then followed with a laboratory demonstration showing how to determine the calorific value of coal, the fusion point of ash, and the specific heat of ceramic products. This program was followed by a reception by the faculty at the home of Professor and Mrs. Binns.

On Tuesday, A. V. Bleininger, of the Bureau of Standards, discussed "Burning Process." Then J. B. Shaw and G. A. Bole showed how to make a heat balance on a kiln and how to determine the burning behavior of a clay. The next subject was a discussion on "Porcelain," by A. V. Bleininger, and then a laboratory demonstration by J. B. Shaw and G. A. Bole showing how to make slag tests on fire brick and spalling tests. W. A. Titsworth, professor of physics, at the Alfred University, discussed the "Calibration of Electric Pyrometers." This was followed by a studio demonstration on making and decoration of pottery by Elsie Binns and Marion Fosdick, instructors in art at the Alfred University. A reception by the Department of Applied Art followed.

On Wednesday, December 17, D. H. Applegate, of the Philadelphia Textile Machinery Co., discussed the "Proctor Dryer." Conrad Dressler discussed the "Tunnel Kiln," and C. F. Geiger, of the Carborundum Co., gave a talk on "One Fire White Warc." A. V. Bleininger gave a paper on "Re-

fractories for the Glass Industry," which was followed by a paper from L. A. Barringer, of the General Electric Co., on "Electric Porcelain."

Those who were in attendance included: G. W. Lapp, Lapp Insulator Co., LeRoy, N. Y.; O. A. Solem, Jewettville Clay Products Co., Jewettville, N. Y.; M. Blodgett, R. Gustavino Co., New York City; George F. Hasslacher, Roessler & Hasslacher Chemical Co., New York City; Paul M. Dove, W. G. Dove & Son Brick and Tile Plant, Geneva, N. Y.; D. H. Applegate, Philadelphia Textile Machinery Co., Philadelphia, Pa.; James L. Jensen, Donald Ritschy and William Chell, Empire China Works, Brooklyn, N. Y.; E. W. Tillotson, Mellon Institute, Pittsburgh, Pa.; M. C. Gregory, of the Brick, Terra Cotta & Tile Co. Corning, N. Y.; C. F. Geiger, Carborundum Co., Niagara Falls, N. Y.; A. V. Bleininger, Bureau of Standards, Pittsburgh, Pa., and C. Dressler, New York City.



Investigate Scientific Problems in Ceramics

The National Research Council and the American Ceramic Society have established a joint committee for promoting the investigation of scientific problems underlying the ceramic industry. This is being done especially by founding a series of research fellowships whose holders shall devote their attention exclusively to these problems.

The ceramic industries, including brick and tile making, and general crockery and glass manufacture as well as ornamental potteries, altho among the earliest ones developed by man, have been the last of our great manufacturing industries to reach the status of an applied science. These industries have for centuries been based on rule-of-thumb methods, trade secrets, and individual artistry. As far as their artistic features go science can do little or nothing for them, but in all other ways it can be of great advantage to them.

In sharp contrast to the painfully slow development of these ancient industries is the extraordinary swift development of such exclusively modern industries as those of synthetic dyes and others entirely based on the discoveries of modern science.

The startling success and speed of growth of these are almost entirely the fruit of highly organized scientific research, with methods of scientific control at the early stage of operations. A famous English scientist is authority for the statement that the capital, large as it has been, which the German dye firms have invested in scientific research has been the best-paying investment which the world has ever seen. It is certain that an organized effort to develop the fundamental science of ceramics can have a great influence in advancing the industry.



A. C. S. Publication Committee Meets

The publication committee of the American Ceramic Society held a very important business meeting at the home of Professor Binns, at Alfred, N. Y., on December 17. A considerable amount of business was transacted at this session.



Geological Survey Issues Bulletins on Fuel

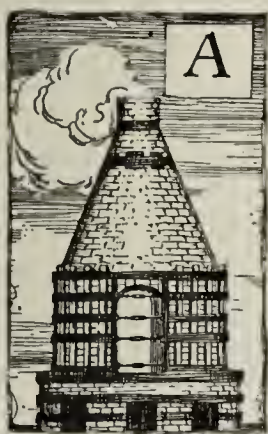
Two publications on fuel have recently been released from the Government Printing Office following preparation by the United States Geological Survey. "Coal in 1917" is the title of Bulletin II:35 which treats on the distribution and consumption of coal. The other bulletin is entitled, "Peat in 1918," and is designated as Bulletin II:15, which describes the origin, consumption and uses of this fuel.

FINE CERAMIC MANUFACTURE



A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products Such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

POTTERY IN IRELAND



A BUNDANT EVIDENCE exists that the making of pottery was at one time fairly general in Ireland, altho at present the industry is practically confined to Belleek, Youghal, and Enniscorthy. The disappearance of the older branches of manufacturing activity is in many cases so complete that knowledge of the sources from which they derived their raw materials has been lost. Still, there appears to be no doubt that materials suitable for use in all but the highest branches of the ceramic industries could be profitably utilized in various parts of the country. The difficulty of obtaining the necessary supplies of fuel has no doubt had a deterrent effect on this form of enterprise in the past; and, unfortunately, recent developments do not give rise to any hope that the problem will be solved in the near future unless some satisfactory method of utilizing the peat resources of the country is discovered.

While the pottery industry of Staffordshire (England) has developed considerably as a result of the changes made in the past century, little progress has been noticeable in Ireland. Thus the discovery of the salt-glazing process, which occasioned a great improvement of hard pottery, found little echo in Ireland, and, writing in 1917, Mr. Johnson stated that so far as he was aware, there were no Irish factories with salt kilns at work. The same author pointed out that drain-pipes (socketed) of all dimensions from 30 to 4 inches, chimney pots, pavement brick, and tile, and sanitary ware of all kinds could be produced in the country. He has also experimented with some Wexford gray and white clays, which gave a good body at a heat of about 1,200 deg. C., while outside the category of ornamental pottery quite a number of clays examined have taken the salt glaze freely and appear to be suitable for the turning out of various kinds of ware.

POTTERY CLAYS—HARD PORCELAIN

The fitness of clays for use in pottery making is determined by the ease with which they may be molded and shaped when wet, and their change to a hard, unalterable condition when fired. When clay is fired it becomes hard and brittle but is still porous. In order to remedy this porosity and to make the material easier to handle, quartz and feldspar are added. Now, the less such admixtures are

present, the more difficult the porcelain is to burn, but at the same time the less sensitive the ware is to change in temperature. The glaze is produced by a second firing, and the effect of the process is to cover the earthenware with a kind of glass. In common pottery this is produced by introducing salt into the kiln. Every type of potter's clay has its own type of glaze, altho with any good variety of plastic clay which can not be fired at the highest temperatures lead glazes have proved practicable. Leadless glazes are steadily becoming more popular, as the use of lead glazes has occasionally resulted in plumbism among work people, and, according to some experts, the greater part of earthenware may be glazed without using lead, the new glaze not being inferior to the old.

The art of the potter is principally concerned with the production of porcelain, stoneware, and earthenware. In the first, the body of the ware is vitrified thruout and no hard line of demarcation exists between the glaze and the body of the ware. When thin it is translucent and, being made from the purest materials, it is white. Regarding the second, materials of a less pure nature are used, and the ware is colored and opaque, but the body and glaze are similarly inseparable and the body itself is impervious. In the third class, the body of the ware is previous and presents no sign of sintering, and the glaze is adherent only and not truly incorporated with the body of the ware.

Hard porcelain is made from a mixture of kaolin, feldspar, and quartz—the quartz not being added as such, but being present in the kaolin used. A mixture used for Berlin porcelain consists of 55 parts of true kaolin, 22.5 of quartz, and 22.5 of feldspar. According to Sir Robert Kane, kaolin of a fine quality has been obtained near Baltinglass, County Wicklow; at Tullow, County Clare, there is a porcelain clay but partially impregnated with iron; while in the neighborhood of Westport, County Mayo, a decomposed petrosilex forms a dyke of kaolin. Near the sea, in the country southwest of Roundstone, County Galway, there are dykes of very pure felsite, which are declared to be quite suitable for kaolin manufacture. The well known Parian ware is still produced at Belleek, and mention is made of the fact that kaolin is manufactured from the pink orthoclase found there. Veins of pegmatite, or Cornish stone containing feldspar, occur near Dooley Head, and also in the parish of Shillelagh, County Wicklow, where they run into Kildare and Carlow. Pegmatite affords a ready means of obtaining an insoluble fluxing material, by which to render the ware dense and vitreous. This material, however, varies to a considerable extent, according to the ratio of the feldspar, mica, and quartz which are its prime ingredients, and a more uniform material is the potash feldspar orthoclase which is largely imported from Sweden. Feldspar is availed of to a large extent in the making of statuary porcelain or Parian, and enters to a considerable degree into the composition of glazes for both the hard paste and the English-made china wares; it is also much used in the production of opal glass.

SOFT PORCELAIN AND EARTHENWARE

For all practical purposes soft porcelain may be regarded as intermediate in composition and properties between hard porcelain and glass. As formerly made at Sevres, white sand, niter, alum, gypsum, and chalk entered into its preparation. White sand is the principal ingredient, and the best deposit of this material in Ireland is found at Muckish Mountain, County Donegal, altho tests would have to be made to ascertain its suitability for this purpose. Alum and gypsum are not unknown in the country, the former being discovered in County Antrim and in the coal measures of Munster, while gypsum deposits exist near Kingscourt, County Cavan. Little difficulty would be experienced in procuring native chalk, as its distribution is on a fairly generous scale. English soft porcelain is distinguished by the presence of calcium phosphate, a typical mixture consisting of kaolin, china, Cornish stone, and bone ash.

Earthenware is characterized by the fact that the body of the ware has at no time approached fusion. Clay which might be a profitable agent in its manufacture is scattered over the country in patches and beds, but varies much both in quality and quantity. At one time Tipperary clay was exported to England for the making of household pottery and the finer kinds of wares. In both Tipperary and Kilkenny beds of pipe clay occur in the older geological formations, and were formerly worked to a much greater extent than at present. Great attention has been paid to the deposit of good reddish clay at Youghal, which for a considerable period has been employed in the production of brick and coarse pottery, drain pipe, and flowerpots. An important deposit of gray, purple, and blue stiff clays containing layers of sandstone and lignite occupies a considerable low-lying tract adjoining Lough Neagh on the south. It is estimated to be some 500 feet in thickness and seems to have been laid down as a delta from waters entering a former expansion of the lake. At Coal Island, near Dunganmon, the clays have been used in the manufacture of coarse pottery.

In Clare, Cavan, Londonderry, Tyrone, and other counties clays are found which answered the purpose of making pottery from time to time. Poole clay, which is of a highly plastic nature and comes from the South of England, is in great demand in the English potteries. In conjunction with kaolin, Cornish stone, and flint it forms a typical earthenware paste. As already pointed out, the first two materials exist in Ireland, while unlimited supplies of flint may be obtained from the chalk region near Dunganmon. Flint sand and ground-up flints are a very pure form of silica, and consequently find much employment in glass works and potteries. Like porcelain, stoneware is clinkered so as to be impervious, but its constituents have not been so near fusion as to yield a translucent ware. It consists of the same material as porcelain, but there is no typical soft variety—one containing bone ash. A comparatively large proportion of feldspar is used, and flint is a characteristic constituent, frequently amounting to half the weight of the mass.—*Commerce Reports*.



Reduces Net Cost of Ware

A. M. Maddock, Thomas Maddock's Sons Co., Trenton, N. J., manufacturer of sanitary earthenware, makes an interesting statement in a recent issue of "The Anchor," an employe's publication, saying: "Strange as it may seem, the cost of producing a piece of ware during the month of November, was less than the cost of producing the same piece last July. This condition seems almost unbelievable in the face of recent advances made in pressers' wages and those of other departments and increased costs of some

of our materials. That we have actually reduced the net cost of our ware, is something of which we may all feel proud, and is the direct result of something in which we have all had a part. That 'something' is the economy and efficiency which we have all exercised during the past months and the result of our being able to reduce our costs, should encourage everyone to effect saving wherever possible in the future."



Imported Pottery Stocks Low—Only Limited Shipments Expected During 1920

The new year witnesses the generalware pottery manufacturers with an exceptionally heavy volume of future business on file. This future business has been accumulating for many months. Buyers, who have made it a rule to visit the various manufacturing centers in January in former years have already been to market and placed business for shipment extending into the fourth quarter of the year. This has created an unusual situation, as buyers have made all possible effort to place their specifications ahead of their competitors. However, buyers who visited the market during the last quarter of the old year will return to the pottery districts during this month, if not to place orders then for the purpose of looking into the future of the situation. But on this point they have been pretty well advised as to the conditions the manufacturers have to face and with what they have had to contend in the past.

Lack of fuel, both gas and coal during December, caused a serious loss in generalware production. It was impossible for kilns to be fired off on regular schedules, and this in turn caused unavoidable delays in shipping finished products. In the meantime new business has continued to be received by the manufacturers. However, the filling of orders will have to take the rotation in which they have been received, and this plan will be followed closely thruout the year. Should the manufacturers of generalware be favored during 1920 with maximum production it will be possible for workers to receive greater compensation for their labor than ever in the history of the trade.

Stocks of imported pottery ware are low, and because of unsatisfactory conditions prevailing in English and French potteries only limited shipments into the United States will be possible this year. Therefore American manufacturers will be called upon to supply a demand that will tax the capacity of every pottery plant, both in the eastern and western district.



Long Beach Pottery Plant Assured

A pottery and chinaware plant which will employ 150 skilled workmen at the outset, with a monthly payroll of \$25,000 and an initial investment of \$250,000 is assured for Long Beach, Cal., according to reports recently made by Jack Adams, secretary of the industrial bureau, to the Chamber of Commerce. The appointment of a committee to cooperate with the promoters of the new enterprise has been authorized. The men in back of the project are from Ohio, John P. Rowe, who is known as the originator of the Sieberling Potteries in that state, being the superintendent. His associates include Frank P. Howard, who has for many years handled the sales business of a number of Liverpool potteries and the Sieberling interests for the territory extending from Denver west; and John E. Spencer, who will be general manager. Deposits that will furnish all the raw material needed for years have been located within a minimum distance of 120 miles and a maximum distance of 447 miles from Long Beach. The coming of the pottery plant

is considered a great improvement to Long Beach. The wages for employes will range from \$6 to \$10 per day. It is also thought that the concern will be successful from the beginning, for existing potteries are unable to fill demands and are sold out for a year or more in advance. As yet, the name of the company has not been announced.

* * *

New President of U. S. Potters' Association

William L. Smith, part owner and general manager of the Taylor, Smith & Taylor Pottery Co., of Chester, W. Va., was elected president of the United States Potters' Association, which concluded its forty-first annual meeting in the Hotel Astor, New York City, the evening of January 7. Mr. Smith is the youngest member of the association to ever occupy the presidency, altho Charles L. Sebring, of the Sebring (Ohio) Pottery Co., whom Mr. Smith succeeded, is also a young man. Mr. Smith is prominently identified with various Masonic bodies in West Virginia, and is a member of the East Liverpool Lodge of Elks. During the recent war he was very active in Liberty and Victory Loan drives and was especially active in the various Red Cross drives. He is a deep student of the ceramic business and in late years has developed a number of plans which have tended to increase and improve the production of generalware pottery plants.



WILLIAM L. SMITH, JR.

Charles Foster Goodwin, of East Liverpool, Ohio, was re-elected secretary-treasurer of the association for the seventh time, the election of both Mr. Smith and Mr. Goodwin being unopposed.

* * *

Increases Capital to \$720,000

The Pennsylvania China Co., Pittsburgh, Pa., has plans under way for general business expansion, and has filed notice of increase in capital from \$200,000 to \$720,000.

Horton Pottery Co. Prepares to Open Up

A former three kiln pottery engaged in the manufacture of sanitary ware and located at Chillicothe, O., which has been idle for about a year will again go on the active list on or about March 1 next. This plant which was owned and operated under the name of the Florentine Pottery Co., has been purchased by Chris Horton, of the Colonial Pottery Co., of East Liverpool, O., who will immediately arrange for the re-opening of the plant. Mr. Horton acquired possession of the Chillicothe property a few weeks ago, and he is now arranging to equip the plant with new machinery. It will also be motorized. An entirely new line of blocks and cases will be ordered immediately, and while the plant will not be placed in operation for probably ninety days, numerous applications for engagement have been received by Mr. Horton. Operations will be under the factory management of James F. Machon. A complete line of sanitary pottery will compose the output. There is sufficient ground about the plant that will permit of liberal extensions at the option of the new owners, who will be known as the Horton Pottery Co. Mr. Horton will continue to retain his interests in the Colonial company, in East Liverpool.

* * *

Maddock Plant Holds Festive Week

The Thomas Maddock's Sons Co., Trenton, N. J., manufacturer of sanitary earthenware, held a "festive week" at its plant for the benefit of employes, effective December 18, and lasting until Christmas. The program covered a noon-day entertainment for workers at the pottery in connection with luncheon, to show the appreciation of the company for the co-operation and efforts of the operatives. The program for the various days was thoroly enjoyed, and much credit is due the Entertainment Committee, composed of Philip Weber, Thomas Egan and William Burchell.

* * *

Will Erect Additions to Double Output

The Findlay Electric Porcelain Co., Findlay, Ohio, is planning for the erection of additions to its plant to approximately double its present output. The new extension will be equipped for the employment of an increased working force of about 500 operatives.

* * *

New Pottery Company Incorporated

Percy N. Leyland, Inc., New York, has been incorporated with a capital of \$25,000 to manufacture pottery, chinaware and other fine ceramic products. A. W. Matson, T. L. Ennis and T. A. O'Callaghan, 96 Broadway, head the company.

* * *

Plans \$90,000 Addition to Plant

The Maddock Pottery Co., Trenton, N. J., manufacturer of chinaware specialties, has completed plans for the erection of an addition to its plant on Third Street, for increased capacity. The structure will be of brick and steel, and with equipment is estimated to cost about \$90,000.

* * *

The Marietta Hollowware & Enameling Co., Marietta, Pa., has advanced the wages of its employes 10 per cent., effective January 1.

The SUPERINTENDENT

Helpful Hints for Practical Men
Whose Problem is Maximum
Production With Minimum Cost

Some Hints on Operating Conveyor Belts

Conveyor belts will carry greater tonnages of raw materials if kept fully loaded at all times. Regulate the gear ratio if possible with this idea in mind. It is the amount of material that actually touches a belt which causes abrasion or wear and not primarily the tonnage. Hence, by keeping the belt fully loaded, more material will be carried with less of it actually touching the belt, than if the belt were permitted to operate with a smaller load.

If the material conveyed by the belt carries a fair percentage of fines, as in the case of some clay plants, cut a V-shaped notch in the lip of the chute. The fines will then form a bed or ridge on the belt, protecting the belt cover from the large chunks which will fall upon the fine material instead of the belt.

It is good practice to have the skirt-boards slightly flared and then cut away underneath at a slight angle, starting from the back. This will prevent particles from wedging or jamming between skirt-boards and belt and avoid the possibility of the belt being cut or injured in this manner.

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Changing Direction of Flow of Product

Mention was made in an article which appeared in *Brick and Clay Record* a few months ago, of a turntable in use in the machine room of the Alton (Ill.) Brick Co. This apparatus is of considerable utility and might find use on a great many more plants where space in the machine room is crowded or of such a nature as to give poor arrangement.

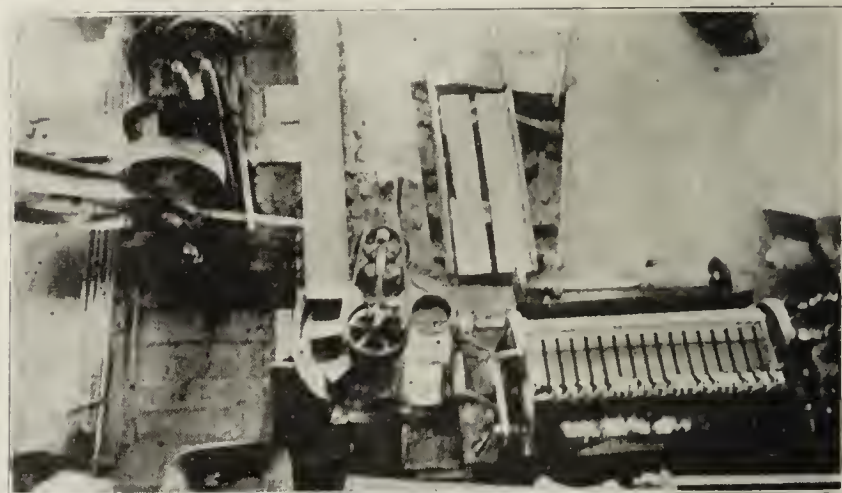
The two views accompanying this article show how a ninety degree turn in the direction of the flow of the product of manufacture can be accomplished without difficulty or much increased cost. All that is needed is a small electric motor and a turntable of the style illustrated. In the process of manufacture the clay column issues from the die in the



View of Turntable Showing How Brick Are Transferred From Cutter to Offbearing Belt in Making a Ninety Degree Turn.

regular manner and passes on to the cutter where it is cut into brick and then the brick instead of passing directly upon the off-bearing belt are first pushed upon the turntable.

The turntable is simply a large horizontal circular metallic plate which is caused to revolve continually by reason of being driven by a small electric motor. The brick "ride" on the circular disc for a quarter turn when the off-bearing is reached. A belt arrangement guides the brick on the disc so that they are prevented from staying upon the plate but



Bird's-eye View of Cutting Machine, Offbearing Belt and Repress Machine.

pass on to the off-bearing belt instead. By referring to the illustrations this guide belt will be noted and the arrangement of the off-bearing belt at the transfer point from the circular plate may be discerned. After passing upon the off-bearing belt the brick follow the regular process.

No doubt there are a number of clay plants that could adopt this plan to secure a better layout where space is limited, or where such an arrangement would aid efficiency.

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Thickness of Conveyor Belts

Care should be taken not to install too heavy a conveyor belt, according to "Belting." The actual thickness must be determined, of course, by the weight and physical nature of the material to be conveyed. But it is not desirable to increase this thickness much beyond what is actually required.

It will be readily understood that excess weight in a conveyor belt leads to loss of power, undue friction on the side pulleys and belt edges, and does not allow the belt to trough properly. The narrower a belt is the less readily of course it will trough, and where a heavy belt is employed it is only a broad belt that will trough successfully.

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Maintenance of Conveyor Belts

Belt conveyors which form an essential part of nearly every clay plant are subjected to harder usage altho they are of less permanent construction and not so rigidly built as most of the machines on a clay plant that do work of equivalent heavy nature. For this reason it is important to pay regular attention to conveyor belts and elevators.

Some parts of the equipment wear out sooner than others

consequently belt conveyors will require thoro inspection from time to time to see whether or not there is need for replacement of rollers, shafts, bearings and damaged or out-of-order grease cups. During the interval that these repairs are being made there will be given a good opportunity to line up several rollers, and add or remove side rollers.

All rollers should revolve freely, and one must make sure that the grease reaches them. Remove all dust and clay or coal which has accumulated in the front of the rollers. To do this it may be necessary to take up the belt. Also move the take-up bearings as far in as they will go, put the belt clamp on at about the length of the conveyor and cut off as needed.

Patches on the belt can be put in with belt lacing where needed, but care should be exercised to see that they do not protrude over the outside edge. The lacing should be put in so that the smooth side is on the running side. All the roughness must be on the carrying side. If the patches are put in with ordinary care they will not affect the straight running of the belt.

When a conveyor belt is under too great tension and is giving trouble, try covering the driving pulley with a rubber lagging material. This will cut the tension down more than fifteen per cent.

In winter, or if the conveyor is to be idle for several months, it is usually advisable to remove the belt and store it, rather than leave it exposed to the injurious action of the elements.

* * *

Unloading Coal With One Man

In a recent issue of "Factory," there appeared an item concerning the unloading of coal that would apply to some clay plants. The item states that the power plant which has an old-fashioned unloading arrangement, consisting largely of muscular laborers, armed with shovels, may be up-to-date in every way but this. The chances, however, are against it. The up-to-date manager is more likely to have turned his thoughts to unloading coal first of all, when the question of saving came up for final decision.

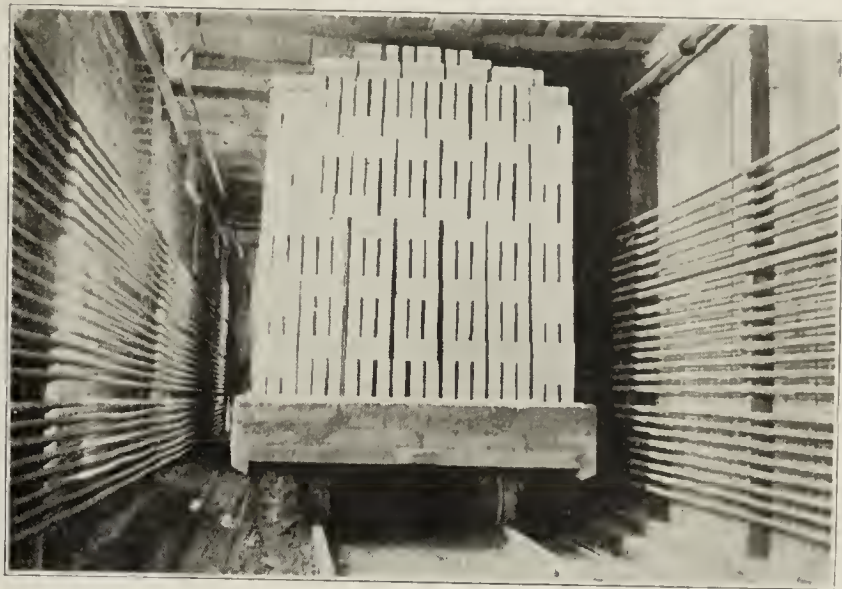
Unloading coal by hand is now so expensive, and so generally unsatisfactory that, as a rule, only the oldest and least progressive plants utilize it. There is no reason for this old method when the modern hopper-bottom coal car makes it practicable to handle coal with the minimum of labor.



Unloading Point for Coal Cars and Part of Conveying System Which Supplies Power House With Fuel at Alton (Ill.) Brick Co.

Mechanical equipments, convenient for making use of hopper bottoms in conveying the coal into the boiler room, are so diverse in design as to fit nearly any plant. One instance of this change for the better is that furnished by the Fort Wayne Rolling Mill; formerly a gondola car of

coal was set beside the boiler house, and a gang of men was put on to shovel this coal awkwardly thru high openings in the wall, directly to the boiler room floor. This, of course, was expensive. They finally installed a hopper arrangement by means of which one laborer, in part-time



Steam Drying Chamber for Drying Dry Press Brick Preparatory to Placing Them in a Car Tunnel Kiln.

work, now takes care of what an entire gang did a while ago.

One of the buildings next to the boiler room was made into a car shed, and equipped with a large receiving hopper beneath the track, which was run into the building. From beneath the hopper, a feeder delivers the coal evenly to a drag flight conveyor, which, extending thru the boiler room wall at a long slant, discharges directly upon the floor of the boiler room, in front of the boiler.

This is but one of innumerable combinations of hopper and conveying systems, which usually pay for themselves in a short time in labor saved in getting coal from the car into the boiler room. Mechanical equipment of some sort for this purpose is a strictly sound and common sense investment, and a manager looking for savings in his plant can do no better than investigate his coal-unloading apparatus.

* * *

Arrangement for Drying Dry Press Brick

The cut accompanying this item shows a drying chamber which runs alongside the car tunnel kiln on a refractory plant in Missouri. The fire brick in this factory are fabricated by the dry press process on a six mold Boyd dry press machine. The brick are placed on the tunnel kiln trucks which have refractory clay tops, in two bungs of 700 brick each. The trucks are then pushed into the drying chamber until it is necessary for another car to be placed in the kiln.

The drying chamber is simply a track alongside the kiln having several coils of steam pipe on the walls of the tunnel which border the car very closely. Live steam is introduced in these pipes and considerable drying takes place thus reducing the length of time required for the car to remain in the kiln. However, it is necessary to bring the cars back again when they are to be placed in the kiln which means that the car which has been in the drying chamber the shortest period is the first to be taken out. This of course is not the best arrangement. Then, too, it is very seldom that the cars are stored in very great number, hence a considerable shorter length tunnel would be sufficient and there would be less waste of steam.

* * *

The Salina Brick & Tile Co. has been incorporated for \$100,000 at Salina, Kans.

IN *the* WAKE *of the* NEWS

Being a Brief Mention of a Host of Interesting Happenings in the Varied Fields of the Clayworking Industry

Will Reopen Corunna Brick Plant

L. M. Johnson, of Carey, Ohio, has taken over the management of the Corunna (Mich.) Brick Co., which plant has been shut down for the last five years.

Veteran Brick Manufacturer Dies

Thomas J. Rose, a veteran manufacturer of brick, and for eighteen years a member of the City Council, died at his home in Philadelphia, Pa., on December 30th, at the age of 80 years. He was born in Philadelphia and educated in the public schools and from boyhood was engaged in the brick industry.

Death Takes Two Prominent N. J. Men

Robert N. Valentine, Woodbridge, N. J., for many years prominent in the clay industry in this section, died at his home on Green Street, at that place, on December 29. Mr. Valentine was born in New York, August 31, 1840, and came to Woodbridge about 1860 to engage in the clay mining business, continuing actively in this line until his death. He was president of the R. N. & H. Valentine Co.

Louis H. Washburn, secretary and treasurer of the Washburn Brothers Co., Jersey City, N. J., brick manufacturer, with plant at Glasco, N. Y., and operating a large mason material yard at Jersey City, died suddenly at the Carteret Club in that city, on New Year's Eve, December 31. He was forty-nine years of age and leaves a wife and two sons.

Hope for Brick Plant at Phoenix

Plans are under way for the building of a modern brick and tile factory in Phoenix, Ariz., where a valuable bed of clay was recently discovered. Extensive experiments, under the direction of J. P. Kent, of Kent & Graves Silo Co., 119 N. Second Ave., have been carried on and it is found that a good brick can be burned. Leading business men and bankers of Phoenix are interested in the proposition.

San Francisco Plans Street Improvements

In addition to the many proposed new buildings in various portions of San Francisco, including the commercial and residential districts, there are several good-sized street improvement contracts in which brick and other clay products will be used quite extensively. One contract calls for the improvement of part of Tenth Avenue which specifies a vitrified brick pavement strip; another calls for brick pavement to be laid in Anza Street between Thirty-third and Thirty-fourth Avenue as well as the construction of an 8-inch vitrified salt-glazed pipe sewer with brick manholes, etc.; a third contract is for the improvement of Collingwood Street between Twentieth and Twenty-second Streets and of Twenty-first and Twenty-second Streets between Castro and Diamond Streets and of the crossways of these streets. A considerable amount of brick for pavings, etc., in addition

to sewer pipe will be used for this last-mentioned piece of work. Other municipal improvements include that of London Street between France and Amazon Avenues. Fiber brick paving material is to be used here in addition to sewer improvements, etc.

Ione Plant Has Record Year in 1919

The Ione Fire Brick Co., with its factory at Ione, Cal., having concluded the season of 1919, finds it has been a record year for the manufacture of fire brick. Over 3,000,000 have been made in the five kilns utilized. These kilns have a capacity of 11,000 brick, but 20,000 have been molded daily; therefore a surplus of 9,000 brick has accumulated every day since the plant opened on March 20th and 25 men will be kept busy at the burning kilns until the 1920 season opens. The sun method has been used at this plant as no drying machinery has been available. Will Brown, superintendent of the company, states that 640 acres of lands have been leased, lying a short distance from Ione which will be used for the purpose of obtaining the sand and clay mixture used in the composition of the brick. Heretofore, all material, as well as the finished product, has been hauled to and from the plant by team, but work will commence almost immediately on spur tracks from the new land to the plant, and from the plant itself to the main line of the Amador Central Railway, thereby greatly facilitating the transportation problem.

Richmond Plant Reports Busy Year

The Richmond (Cal.) Brick Co. reports a very busy year, its only trouble being that it cannot get as much labor as it needs to keep up with the orders for the products. There are a number of other manufacturing concerns in this district which develop clay in various ways and their reports are practically similar to that of the Richmond company.

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The Pacific Porcelain Ware Co., San Francisco, Cal., is among the concerns which are progressing in a noticeably rapid manner. L. J. Waldear, assistant factory manager of the company states that orders are still piling up in advance of the output. Several additions have been made to the plant recently which will add to the capacity.

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Wave of Optimism Hits Wilmington

A review of the building situation at Wilmington, Del., for the year just passed shows a volume of work almost doubling that of 1918. This can be considered as a mighty good record, inasmuch as active construction work in this locality did not get under way to any great extent until fall. Thruout the spring and summer seasons there was a noticeable lag, but recent months have more than compensated for this inactivity. Records for 1919 show that the local building department issued 1,330 permits for

work, involving a total valuation of \$5,911,859, as against 770 permits in the previous year aggregating \$3,016,200 in value. The new year bids fair to establish more pronounced records, for with the wave of optimism now prevalent in local building circles, great things are expected with the coming of the spring building period. The industry, as a whole, in this vicinity is in a healthy condition, and the realty market, in itself, has experienced a very active season during the last few months. The Physicians' & Surgeons' Hospital is planning for the construction of a new hospital building on the McKay estate property to cost about \$500,000. Another interesting project, is the new five-story brick and granite building to be constructed by the Y. W. C. A. on the east side of King Street, near Ninth Street.

New Incorporations Under Delaware Laws

The past fortnight has shown a large number of new organizations in the brick and clay products fields, to operate under Delaware laws. These companies will operate in different parts of the country, and among the most prominent are: The Acme Machine & Brick Co., with capital of \$1,000,000, the local incorporators at Wilmington being, Charles B. Bishop, A. M. Fox and S. E. Baynard, Jr.; the Acme Building Tile Corporation, with capital of \$750,000, to manufacture high grade tile products, with incorporators, all of Wilmington, including S. E. Dill, T. L. Croteau and H. E. Knox. These same incorporators are also interested in the Furness Corporation, capitalized at \$500,000, to mine clays of all kinds.

Terra Cotta Plant Turns Out Good Commons

The Delaware Terra Cotta Co., Wilmington, Del., has been operating four kilns at its plant for the production of common brick. The company manufactures a particularly high grade product in this line, which finds a ready market thruout this district, as well as points in the Baltimore, Md., section, and other distant localities. A salmon grade of material is also manufactured, but the call for this commodity has been slackening recently. Considerable difficulty has been experienced in past months in the matter of car shortage, but the situation is now improving.

Two New Companies for Washington

Two companies with headquarters at Washington, D. C., have been incorporated in Delaware by James E. Granberry, John G. Benton and Willard B. Swingle, all of Washington, to operate in the clay products industry. These companies are the National Brick Co., with capital of \$300,000, to manufacture common brick; and the American Clay Products Co., with similar capital to manufacture brick and terra cotta specialties.

Decatur Plant Cuts Down on Commons

As the Decatur (Ill.) Brick Co. built its plant primarily for the manufacture of face brick, the firm has decided to minimize the manufacture of common brick. For the last few years the company has endeavored to supply the needs of the local trade with common brick, but thru experiments has found that at the present rate it is not profitable. As soon as a few local contracts are filled, the plant will be largely turned over to the manufacture of the face brick product. The change in plans will necessitate the employment of a few more men. Manager E. D. Mattes states that previously the output of face brick had been about nine or

ten million, but under the new plan this output would be increased to about fifteen million yearly. Very little of the local trade buys face brick and a great deal of the output will be shipped out thru the northwestern part of the country. Some common brick will still be available. Seconds from face brick will also be available and sold locally as commons.

Resumes Payment of Dividends

The Illinois Brick Co., with offices in the Conway Building, Chicago, resumed regular quarterly dividend of 1½ per cent., discontinued a year and a quarter ago; and also declared an extra dividend of 1½ per cent., both payable January 15 to stock of record January 13. Officials report that building indications locally and nationally are the biggest ever seen and 1920 will be the busiest in the company's history.

High Record of Louisville Permits in 1919

In the past year Louisville ran higher in building operations than any year since 1914. A total of 2,261 permits costing \$4,038,664 were issued. In 1914 the total was 2,287 for \$4,388,480. The record by months for the year was as follows:

Month	Permits	Value
January	66	\$95,801
February	118	104,850
March	204	223,200
April	260	202,160
May	288	402,545
June	239	473,503
July	187	438,215
August	187	427,530
September	152	341,465
October	204	755,745
November	146	373,650
December	110	250,000
Total	2,261	\$4,038,764

Louisville brick men, lumbermen and general handlers of building supplies are looking forward to the most active year in their history, many figuring that 1920 will break all records. Business interests are very optimistic, this being especially noticeable at a big get together meeting on January 1, of the members of the Board of Trade at the Seelbach Auditorium, when arrangements were started looking to the erection or leasing of a new home for the Board, including club quarters and a cafeteria.

Whitesburg to Have Brick Plant

The Whitesburg (Ky.) Commercial Club has been able to influence establishment of a new brick manufacturing plant in that city, which will have a considerable capacity, and employ many men. Whitesburg has been growing fast, and is one of the coming cities of the Eastern Kentucky coal, oil and timber regions.

Movement on Foot to Benefit Home Builders

The Louisville financial interests are planning better co-operation this year with the building interests in advancing money to home builders. Many building and loan associations have increased or doubled their capital stocks, and since going under the supervision of the State Banking Department, are much safer than formerly. The Kentucky Title Savings Bank & Trust Co., one of the largest and strongest concerns which aids home owners, has just recently incorporated the Home Finance Co., for the pur-

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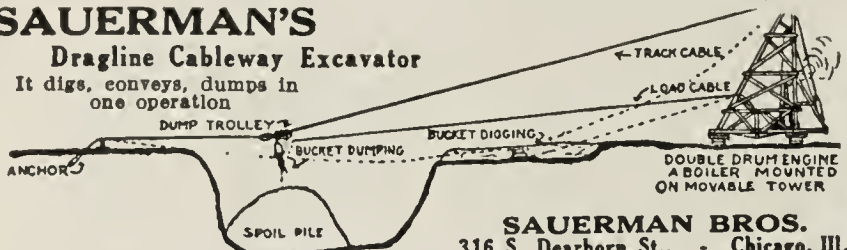
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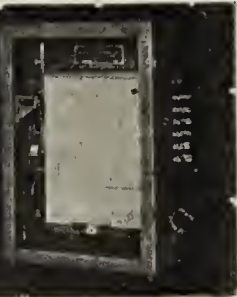
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pose of dealing in second mortgages and financing home building. Indications are that home builders will have very little difficulty in securing money to finance their plans. C. C. Heatt, prominent realty, building and business man, has started a movement to have the city council pass an ordinance under which new homes would be exempted for taxation for a period of five years, as is done with new industries, it being believed that such a movement would aid in getting building started, and also permit builders to erect new dwellings as investments without paying heavy taxes until they are sold.

Louisville Plants Laying Up Stocks

Louisville brick manufacturers are now able to secure all the fuel they need, and have fair stocks on hand in many instances, so that in event of severe weather they will manage to keep going if fuel supplies become scarce. The plants as a whole are far behind on production, and in view of the fact that they are expecting the largest year's business since 1912, if not larger, they are endeavoring to run to capacity in laying up stocks for the future.

The P. Bannon Pipe Co., reports that both of its plants are back on full capacity basis in producing hollow tile, common brick, sewer pipe, etc., after a shut down of seven weeks. Stocks are very low, and by running full during the dull period it is hoped to have stock enough on hand in the early spring to meet all requirements.

Projects and Actual Contracts Very Promising

Since the latter part of December announcements have been coming out fast relative to good projects and actual contracts being let in Louisville, Ky. Among a few of the desirable contracts which will be handled shortly are a \$50,000 branch for the Goodyear Rubber Co.; \$50,000 plant for the Blue Valley Butter Co.; \$75,000 addition to the Puritan Cordage Mills; \$800,000 addition to the Inter Southern Building; \$800,000 Fehr Cold Storage Plant; and half a dozen garages costing \$50,000 or better. More work was carried over from 1919 have in any previous year since the war started.

Breaks All Local Building Records

That Baltimore "knows how" when it comes to building work is shown by the accomplishments of the city for 1919. In the many months past, *Brick and Clay Record* has chronicled increasing activities in the industry in this section, and now that the totals have been computed, the attainments are all the more pronounced. The records of the local department have been broken; the tabulations show that over 15,000 permits have been issued covering operations of all kinds and aggregating about \$21,500,000 in valuation. It is stated that under-valuations can be estimated at about 20 per cent., making a grand total of about \$26,000,000 for new buildings, additions and alterations in the year just past. The outlook for the 1920 building season is very bright and the construction program as now evidenced bids fair to show another record year. Industrial work is expected to demand a large share of attention in the new year; big plants are projected by the American Sugar Refining Co., at Locust Point, with cost estimated at \$8,000,000; by the Columbia Graphophone Co., in the Orangeville section, estimated to bring an investment of about \$3,600,000; a new building

for the Baltimore Car & Foundry Co., to cost \$100,000; new additions to the plant of the Curtis Bay Copper & Iron Co., costing about \$150,000, and numerous other enterprises. At the same time, enormous operations are anticipated in the housing line and large sums will be expended for this work. Local mason material dealers are looking for a prosperous year in all particulars, and their anticipations seem destined to be fully realized. Big things are going forward in the building line and everyone in the industry is on edge.

Baltimore Enjoys Active Material Market

The building material market at Baltimore, Md., is enjoying an active condition of affairs. There is no recession in call for materials of all kinds, and common brick hollow tile, face brick, and such basic commodities rank high in the list of demand. There is a noticeable shortage of stocks of certain burned clay specialties, and if winter building continues to progress at its present pace, there will be little short of famine in such commodities. Prices maintain at present levels, there is no thought of reduction and fears are expressed in view of increases that seem sure to occur. With common brick selling from \$20 and \$22 a thousand, fire brick is reaching a \$71 level under increasing demand. Hollow building tile in the popular sizes is selling at from \$65 to \$120 and upwards. Clay tile partition blocks are being quoted around \$135 for 3x12x12 in. size and \$146 for 4x12x12 in. Face brick is in fair demand with price range from \$30 to \$50 for regular standard varieties, and as high as \$65 and upwards for very choice colors and selections. Drain tile, sewer pipe and other such miscellaneous specialties are in firm call for local operations.

Will Build New Dryer Building

The Baltimore (Md.) Brick Co. has completed plans for the erection of a one-story addition to its plant, about 57x158 ft. in size. The structure will be located at the corner of Highland Avenue and Monument Street, and will be used as a dryer building. The company is furnishing large quantities of brick for local and neighboring operations, and business is very good at the present time. Prices range around \$20 per thousand for good grade common brick, with slight advance for longer hauls.

Will Increase Plant Capacity

The Cambridge (Md.) Brick Co., of which H. L. Longenecker is general manager, will install additional machinery and thereby increase the capacity of the plant.

Installing Six Tunnel Dryer

The Corinth (Miss.) Brick Co. will improve its plant by installing a new six tunnel drying equipment. Other machinery is to be installed which will add to the capacity of the works.

1,000 Brick Dwellings Before End of 1920

Nelson Cunliff, Commissioner of Parks and Recreation of St. Louis, has been appointed the first general manager of the Home and Housing Association, the \$2,000,000 organization established by the Chamber of Commerce to build homes for workmen with average wage. He has taken up his duties with offices in the Chamber of Commerce Building and has tendered his resignation as Commissioner of Parks and Recreation.

If this is what happens to your belting read "Gone Again" an interesting booklet on the problem of belt joining. Free, of course.



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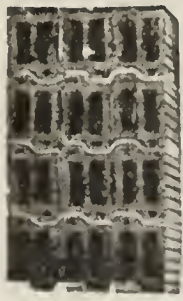
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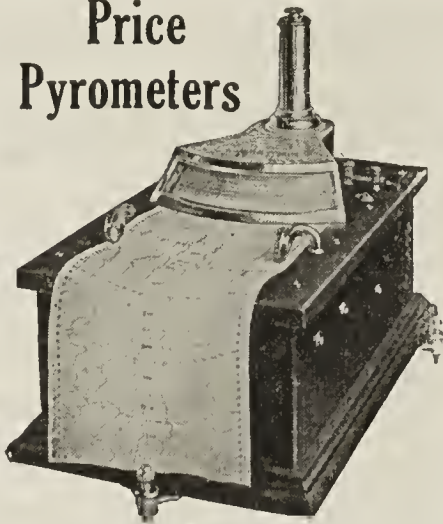
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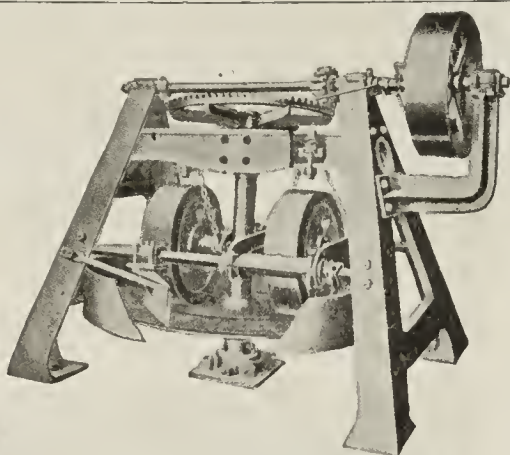
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tion, effective February 1. Mr. Cunliff said that he will build 1,000 or more brick dwellings before the end of 1920. He said that the association will have a working capital of \$2,000,000 by the time actual construction commences. Committees of the Chamber of Commerce are now engaged in selecting locations and designs for the houses. The contracts will be let within a few weeks, Mr. Cunliff said. The new manager said that his new work will extend over a period of at least fifteen years and may become permanent. He is a civil engineer and in 1903-4 was employed in the construction of some of the World's Fair Buildings. One item in the five-year construction plan of the housing association has been estimated to call for 500,000,000 common brick to be used in construction.

1919 Building Permits Set High Record

More building permits were issued in St. Louis in 1919 than have been issued at the City Hall for seven years, according to Director of Public Safety McKelvey. The aggregate amount of construction work called for in building permits issued last year was \$20,532,145, while the year before it was only \$6,352,528. The falling off in 1918, due to war restrictions and the large number of industries locating in St. Louis last year, partly explains the vast difference in the construction done during the two years. At the beginning of 1919, when building restriction had been removed, resumption of building that had been started in 1918 was noted. A marked increase in the demand for small brick homes, which are expected to come into even greater demand, was noticed toward the close of 1919, Mr. McKelvey said.

Contracts Expire, Increased Wages Demanded

Many of the contracts of the St. Louis building trades unions with the Building Industries Association expired January 1, and within the next six months all of the existing contracts will expire. Increased wages are demanded in every case. Secretary F. G. Boyd of the Building Industries Association and Secretary Maurice J. Cassidy both said that they anticipated no disturbances or threats of strikes but believe an amicable agreement will be reached in every case. The former said that, in most cases, the demands would be ignored.

Thriving Trade Conditions in New Jersey

This is the time for reflection and recounting—an estimate of what the past year has produced. The records, now tabulated, show that 1919 has been good to New Jersey building interests in all departments of trade; better by far than anticipated in the early months of the year, assuming increasing force in the spring, still advancing in the fall, and going out with a "blast" with the old year. Reports of achievements have been chronicled from month to month in *Brick and Clay Record*, and the assumption in recent issues that the year would show a banner period is well confirmed in the results that now stand forth. Practically every city and community of any size reports an increase, and in some cases, a phenomenal increase. Structures of all kinds have been erected and are being erected, for with the turn of the year, there has been no change in the situation. The season, still an open one, is helping things along in noticeable fashion; new work is unfolding, and the call upon the mason material dealers holds strong. The conditions as outlined are sub-

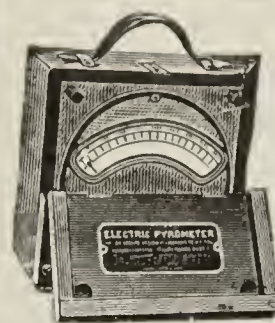
stantially the same in all parts of the state—Newark, Jersey City and vicinity; Paterson, Passaic and environs; Trenton, Bordentown and surrounding territory; and thruout the southern part of the state, in the Raritan section and on down. As a prominent clay man recently remarked: "The buildings are literally springing up overnight," and this methodic, persistent, "keeping at it" is showing the returns in better housing and industrial facilities and increasing revenues to those in the industry. The work is trying to catch up with the call for new buildings, but really is only succeeding in furnishing past needs; present demands must wait their turn, for the call is just as keen as ever. But, never mind, it is making for thriving trade conditions and this is what the industry is justly entitled to.

Trenton Rapidly Absorbs Incoming Commons

Brick production at Trenton, N. J., is on the wane, as to be expected at this season of the year, and only plants with steam drying systems are now maintaining operations. The lack of proper facilities in this connection at the various local yards is distinctly noticeable, and now with a keen demand for common brick, the handicap is all the more pronounced. The city, in a way, is slipping back in brick production, for more than one-half of the yards operating previous to the war, and with an output ranging from 25,000 to 60,000 brick per day, have gone out of existence during the past few years. The war, in many ways, is responsible for this condition, and the numerous carloads of common and hard pressed brick leaving this city in years gone by are not to be seen today. It is said that at the present time, the immediate city yards have only a combined production of about 100,000 brick a day. This situation is developing a shortage of the material, becoming more and more pronounced as the days advance and the call continues. Good brick, accordingly, is difficult to find, and the price has risen to \$20 and \$21 a thousand at the yard. The local conditions have grown so acute that brick is now coming into the city from other places, and such shipments are rapidly absorbed.

Expect N. J. Commons to Reach \$27 Mark

There is no let-up in the volume of business reaching the mason material dealers in different parts of New Jersey, and the active call for burned clay products of all kinds is being reflected in capacity production among the manufacturers. Common brick holds the lead in range of call, and this material is in more than prominent demand. It is regrettable that there is a noticeable shortage of good, hard common brick in the New Jersey markets, because if the material cannot be secured it is natural that it will have the effect of bringing diminished operations in construction circles. Prices hold very firm, and seem due for an early rise. At Newark the prevailing price on the job is from \$24 to \$25, and this same figure maintains at Jersey City and surrounding districts. At Passaic and Paterson the local dealers are asking \$23 and \$24, the bulk of the offerings being the remaining stocks from the Hackensack yards. Building contractors at Trenton and neighboring districts are paying anywhere from \$20 to \$22 a thousand according to the grade of material. Those in position to know make the assertion that good brick will reach a uniform level of from \$25 to \$27 before the winter season is over.



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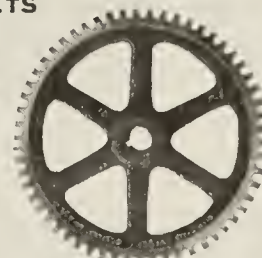
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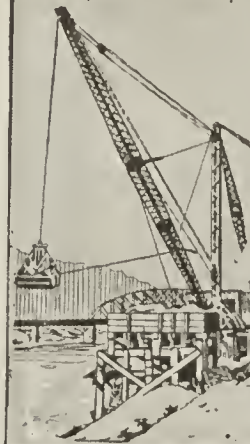
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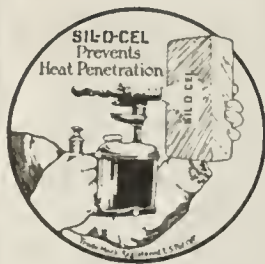
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1920 May Eclipse Newark 1919 Banner Year

Newark building in 1919 shows the highest totals in the history of the building department—this is a big story in a nut shell. The total estimated costs of plans filed for construction work aggregate \$20,238,976, or almost \$4,000,000 more than the last high record, that of the year 1913, which totaled \$16,317,973. The month of December proved to be the busiest ever experienced by the local building department, rounding out a total of \$7,076,095, covering 237 permits. This month alone exceeded the totals for the entire twelve months of 1918, these aggregating \$5,320,833. From this, also, it will be seen that the year 1919 produced a result almost four times this amount. These figures are decidedly interesting in showing the trend of affairs, for in January of last year the aggregate building only averaged \$165,613, indicating that things were still sagging; in March, a jump to about \$600,000 was made, with April following with over \$1,150,000 in valuation of permits. In September, the \$2,000,000 mark was reached, and this was thought excellent—but December has exceeded this amount more than three times. The New Year opens up bright in this section; construction work of all kinds is under way or projected, and the totals of 1920 now seem destined to eclipse even the banner year just past.

Builds Two New Kilns at Hollow Tile Plant

The Philips-Harper Co., American Mechanic Bank Building, Trenton, N. J., is building two additional kilns at its hollow tile plant at Hightstown, N. J., operated in the name of the American Hollow Tile Co. The extension has been made to provide for increased output, as a keen call is being experienced for the material at the present time. The company is doing a large business in various burned clay products, representing a number of important producers in New Jersey; these specialties include high-grade face brick, fire brick, enamel brick, sewer brick, drain tile, sewer pipe, partition blocks, paving blocks, and general fireproofing products. The company is also handling common brick locally. Wilson A. Philips is president, and Frank W. Harper, secretary and treasurer.

No Slack in Call for N. J. Clay Products

The New Jersey market for hollow building tile, sewer pipe, drain tile, flue lining and other burned clay products, continues with a firm undertone. The turn of the year has shown no slack in volume of call, and price levels, which are rising, are having no effect upon the strength of the demand. Hollow building tile is now selling for \$77 and upwards per thousand, according to size in the various cities. Fire brick continues to hold its own and dealers report an increased demand for this and other refractory materials. The price for high-grade No. 1 fire brick is now around \$70 a thousand. The market for face brick continues strong, with good varieties obtainable at from \$42 to \$55 a thousand.

Healthy Condition in N. Y. Building Circle

The turn of the year shows a strong, healthy condition in New York building circles. Engineers and architects report a large volume of forthcoming work, and with construction now under way, the record for 1920 is likely to make inroads on the banner figures for the year just passed. The call for building of all kinds shows no let-

up, and where Brooklyn has been going "hard" in the matter of housing work, New York City proper is coming forward in a big way in this respect and the bigness is shown in the valuation of the projects. A number of new brick and terra cotta apartment houses will be constructed in the uptown district, and similar structures in the Bronx, the total valuation reaching well into the millions. The local Board of Education is arranging plans for the construction of new schools to cost about \$8,000,000, and an appropriation for this amount has been made by the Board of Estimate. The Garment Center Realty Co. has perfected plans for the construction of a twenty-story building at the corner of Seventh Avenue and Thirty-seventh Street, to cost about \$3,000,000; the structure has been designed for the garment trades. Other projects of equal scope of attainments are coming to light, and the general aspect of trade is a mighty cheery one to the manufacturers of building materials and local dealers.

Plan for Increased Operations in Spring

While operations in the Hudson River brick manufacturing district have been curtailed at many yards for the winter season, plants equipped with steam drying systems are going ahead in a fair way, and burning is well in hand at a number of yards. The labor situation is again causing no little concern, and under prevailing high production costs, it is believed that common brick will have to hold at the present price in the New York market, or \$20 wholesale at the dock, with probable advances over this level in the near months to come. A number of manufacturers in this section are planning for increased operations in the spring, and indications seem to warrant greater production. If New York can "hold over" with available stocks thru the winter months, increasing shipments are sure to ensue when the river is again open to navigation.

Union Bricklayers' Scale \$9.00

With local bricklayers at New York now earning a wage rate of \$9 per day, there is an indication that a higher scale may be asked in the weeks to come, and this condition is bringing about a little uncertainty among the prominent building interests. The scale of \$9 became effective on January 1, but many independent job workers in the trade have been able to secure \$10 a day, and a knowledge of such conditions is not improving the attitude of the union men. With the labor situation now quite clear in other channels of the trade, it is hoped to brook over the difficulty with an agreeable settlement and without an increase in the scale.

Increase Capital for Expansion

Among the active companies at Mechanicsville, N. Y., the Duffney Brick Co. has increased its capital from \$60,000 to \$100,000 for proposed expansion, and the Wilson & Eaton Co., Amenia (Dutchess County) has doubled its capitalization from \$125,000 to \$250,000 for similar purposes.

To Manufacture Various Clay Commodities

On the twenty-third day of December, 1919, the Clay Commodities Corporation was chartered in Albany, N. Y. The corporation has acquired a large tract of fine clay land at Chatsworth, N. J., and will start a plant to manufacture all kinds of clay commodities, such as brick, tile, hollow block and fire brick, the capital stock of the concern being \$25,000.

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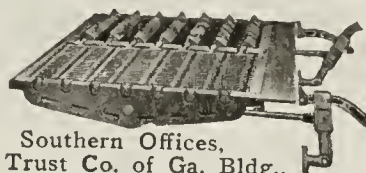
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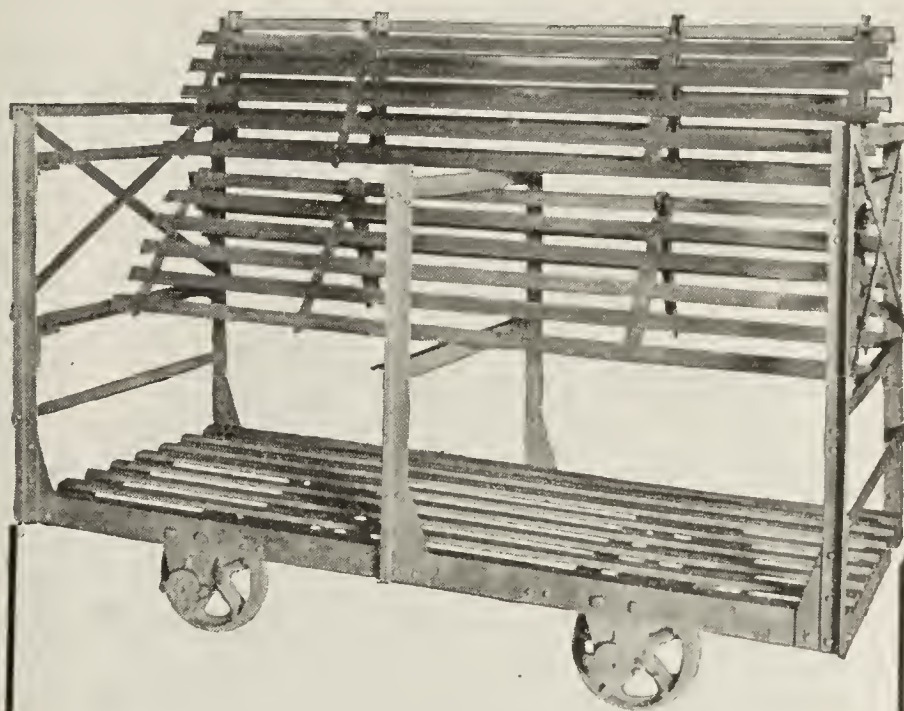
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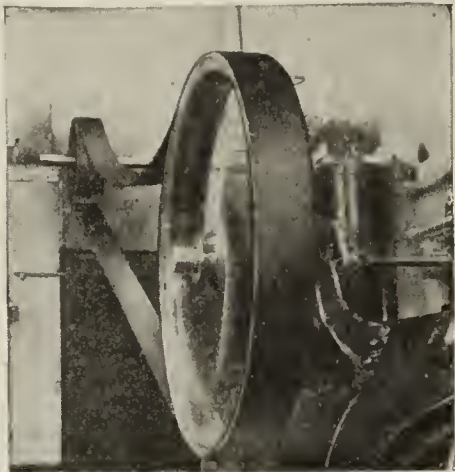
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At the same time, the Cling-Surface Co. would be glad to have you tell about any drives with which you are now having trouble, diameters of pulleys, speeds of pulleys, thickness of belts, width of belts, distance between centers, kind of belts, etc. The more details you give, and the more accurate your measurements and description, the better we can serve you.

You can try a 25 or 50 lb. tin and if it does not fulfill our claims, it won't cost you a cent. The Cling-Surface may be returned at our expense.



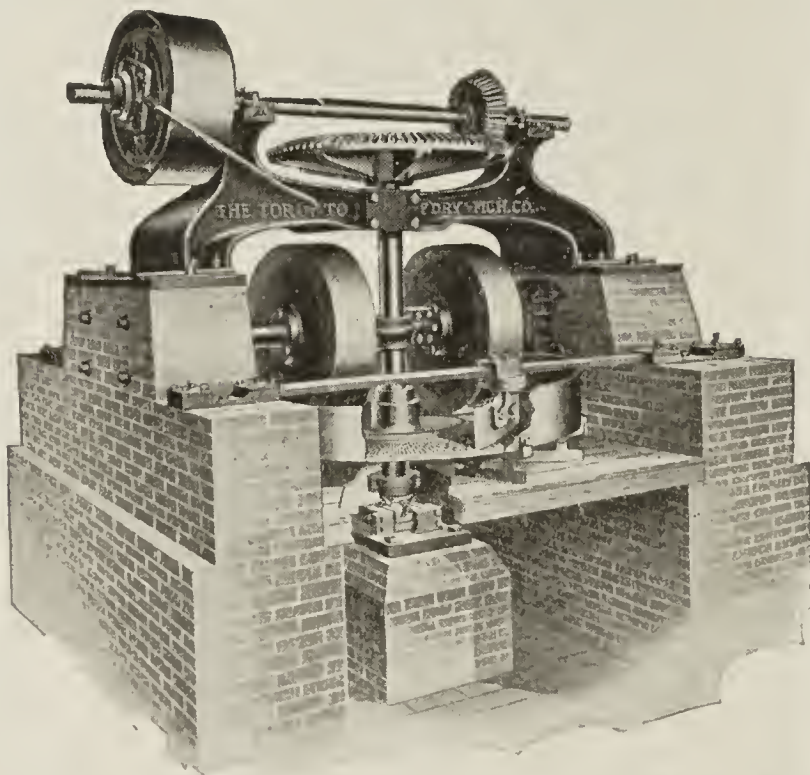
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THE TORONTO FOUNDRY & MACHINE CO.

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The officers are: Henry J. Franklin, president; Frank Mancuso, secretary and treasurer, and Vincent A. Grosso, vice-president, all of New York, N. Y. The offices of the company will be at 26 Courtlandt Street, New York, N. Y., room 108.

How About Commons at \$30 in N. Y.?

The demand for common brick in the New York market is coming to a point of "asking without receiving," for available stocks are not sufficient to care for the call. All boroughs of the Greater City are drawing on the supply, and the barge loads available in the market are at a minimum. While the price holds firm at \$20 a thousand, alongside dock, the general sentiment of the trade is that \$25 will more likely be the figure within the next few months, meaning that \$29 and \$30 common brick, delivered on the job, may be seen. Dealers are decidedly optimistic and a very active season is anticipated.

Maurer Plant Working at Good Capacity

Henry Maurer & Son, New York, are active in the production of their well-known fireproofing materials, and are working at good capacity at their plant at Maurer, N. J., in the Raritan River district. The company specializes in the production of hollow tile for partitions, flat arches, etc., as well as fire brick, porous terra cotta and other products. The works are now giving employment to approximately 300 persons.



To manufacture enamels, the General Enamel Corporation, Nyack, N. Y., has been incorporated with a capital of \$50,000. The company is headed by M. A. Miller, R. Warde and H. G. Kosch, 1476 Broadway, New York.



North Dakota Has Valuable Clay Beds

It is claimed that large and valuable clay beds are located in North Dakota. Investigation has proved that among the mineral resources of the state, clay is second only to coal, and the quality of the former is especially high. Enormous deposits have been located in the western part of the state, closely adjacent to some of the biggest coal beds. Exhaustive experiments have been conducted at the School of Mines and a variety of products made, including fire and paving brick, terra cotta, tile, stoneware, earthenware and art pottery. The fact that no admixture is required for this natural clay has proved especially interesting to manufacturers who have investigated the experiments at the School of Mines. This fact, together with the close proximity of an almost inexhaustible supply of coal and lignite means economy of manufacture that is hard to match elsewhere.

Cleveland Building Exceeds \$65,000,000

Few cities, in proportion to population, are expected to exceed the building figures of Cleveland, Ohio, for the year 1919, figures for which have just been announced by the Building Department of that city. For Cleveland, Cleveland Heights, Lakewood and East Cleveland, all of which comprise the greater Cleveland district, a total of more than \$65,000,000 business was done, against a little more than \$20,000,000 in 1918. Of this the larger amount was in residence construction totaling \$40,600,000, against \$7,800,000 in 1918.

In the opinion of E. A. Roberts, secretary of the Builders' Exchange, there is every reason to believe that the

figures of 1919 will be equaled, if not passed, during 1920. He bases this prediction upon the large amount of work already booked or in sight among members of the Exchange. Chances of beating last year's figures will be favored, he points out, by the large amount of construction being done thru the present winter months.

Stimulus to building for the coming year is being given by personal attention to conditions affecting the delivery of materials in the Cleveland, Ohio, district by members of the brick, tile and other building material factors in that locality. While many materials are available in the Cleveland district, it is admitted, there are many consignments of materials from more distant points being held up, it is claimed, thru lack of assistance from railroads in transporting these supplies. An appeal for greater co-operation in this end has been made to Senator Pomerene by Perry Quale, president of the Ohio Coal & Supply Co.

Will Rebuild With Fireproof Structures

Plans for immediate rebuilding with structures as nearly fireproof as it is possible to make any construction have been started by the Cleveland Brick and Clay Co., Cleveland Ohio, following a \$50,000 fire at its Cuyahoga Heights plant. The fire is believed to have originated from an over-heated stove. Only one structure was seriously damaged, six other buildings being saved by local and Cleveland firemen.

Rebuilding plans call for the improvement of machine, mill, shale and other departments. When completed, according to A. L. Hendershot, secretary-treasurer, it is expected the production will be 50,000 paving and common brick a day. Production is expected to be resumed by April 1. Considerable new equipment, including crushing machinery may be added. Reconstruction will be under the personal supervision of heads of the firm. It will be steel construction largely. J. L. Higley is president of the company and C. U. Hendershot plant superintendent.

Will Produce "Rainbows" at Zanesville

The Burton-Townsend Co., which owns plants at Zanesville and Ashtabula, Ohio, is at present making at the Ashtabula plant, brick known as "Rainbows." This kind of brick will also be manufactured in the near future at the Zanesville plant. The present capacity of the Zanesville plant is taxed to the limit, and shipments will continue thruout the winter months. The company will be obliged to provide additional kiln space to take care of its ever-increasing business. These improvements will be undertaken early in the spring, as soon as weather conditions will permit.

New Process Brick Being Made in Macedonia

Peter Schneider, well known in Cleveland, Ohio, as a building wrecker and a member of the Cleveland Builders' Exchange, has been back of the movement to organize a new brick manufacturing company to be known as the Pyrite Brick Co., with a capital stock of \$275,000. A site at Macedonia, on the Cleveland & Pittsburgh railroad, southeast of Cleveland, has been purchased, and a railroad siding is now being built into the property. Machinery purchased at Evansville, Ind., is to be shipped immediately. The brick this firm will manufacture is under a new process which has been successfully developed by D. C. Stebens, of Evansville. Raw material is obtained from pulverized cinders and sand, which

Type "B" $\frac{3}{4}$ cu. yd. ERIE Shovel owned by McCrady Bros., Braddock, Pa.



"Very stiff clay, 750 cu. yds. a day"

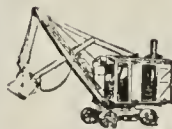
We have loaded, on the average, 750 cu. yds. of very stiff clay per ten-hour day.

We prefer the ERIE to any other shovel we have ever used. In our opinion the ERIE has everything else of her size beat a mile."—McCrady Bros., Braddock, Pa.

The ERIE Shovel is both speedy and reliable.

It is built far stronger than the usual standard of steam-shovel construction.

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Longer life than either

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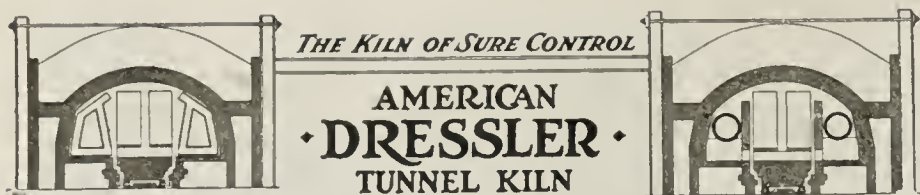
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is the man who continues
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Just add it to your clay at the pug mill or dry pan and it will make the scum-producing salts insoluble and harmless to your ware.

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BRICK MUST HOLD UP ITS REPUTATION

are put thru a chemical process before being worked into brick. The entire output of cinders from the Independence Road plant of the American Steel & Wire Co., of Cleveland, will be taken over by the Pyrite company, this supply being given the brick company gratis.

The initial capacity of the Pyrite plant will be 40,000 brick per day. Its first order is for 750,000 which has been placed with the firm by the Akron City & Building Supply Co.

New \$75,000 Incorporation at Columbus

The Brown Clay Products Co., of Canton, Ohio, has been chartered with a capital of \$75,000 to manufacture brick, tile and other clay products. The incorporators are T. E. Brown, T. H. Leahy, J. B. Snyder, J. A. Bishop, K. E. Rice and C. B. Gerwig.

Laurens, S. C., to Have Brick Plant

R. F. Fleming and H. M. Franks have formed a new corporation at Laurens, S. C., for the manufacturing of building and common brick.

Lumber Concern to Erect Brick Plant

The J. L. Juy Lumber Co. will erect a brick manufacturing plant at Camden, S. C., and is seeking information on machinery and other equipment.

Philadelphia Scores Biggest Building Year

Philadelphia has recorded the biggest building year in the history of the local building department—that is how 1919 has gone out. Despite the labor difficulties which so severely handicapped the situation last fall, the aggregate total has rounded out an estimated cost of \$65,088,750 for permits issued during the last twelve months; this is an increase of \$49,636,080 over the year 1918, or over four times the volume of work. Compared with 1916, the next largest year in the last decade, the increase is \$15,192,180. The local building bureau under the present system was organized in 1894, so the 1919 record stands as the banner mark since this time. Housing work during the past year has been a prominent feature of operations, as recorded from issue to issue of *Brick and Clay Record* and the final totals show that about \$28,000,000 was expended in this direction; office buildings show an aggregate total of about \$8,000,000; manufacturing plants, \$6,248,000; and warehouses, \$1,500,000. The New Year has opened up bright; the indications are for a continuance of active construction work, and figures for 1920 are destined to play an important part in the records of the building department. It is little wonder that building material dealers are becoming more and more satisfied, for things are coming their way in the right way.

Books Order for 1,300,000 Brick

The Hazleton (Pa.) Brick Co. has received an order for 1,300,000 brick from New York construction interests, with shipment to be made as the material is available. This order will insure full operation at the works during the winter season, and it is proposed to keep a large force of men operating in the different departments. As recently announced, the company is planning to increase the capacity of the plant from a total of 25,000 to 35,000 brick a day. This expansion program will be inaugurated in the spring. H. L. Campbell is manager.

Stability Shown in Philadelphia Market

There is good stability to the building material market at Philadelphia, and common brick, as well as other popular burned clay products continue under firm demand. Good hard common is selling for \$21 to \$23 delivered on the job, and production at local yards is being taxed to keep up with the requirements. Fire brick is showing an increase in the volume of orders, and standard material is selling for slightly over \$70 a thousand. Face brick, drain tile, hollow tile and kindred commodities are well up in the list of daily demands.

To Manufacture Refractories

The Laing Refractories Co., Du Bois, Pa., has been incorporated with a capital of \$10,000 to manufacture fire brick and other burned clay refractories. The incorporators are W. G. Brown, who will act as treasurer, and John E. Long.



The Eastern Refractories Co., Bellefonte, Pa., has filed notice of increase in debt to \$1,500,000, the change being made for proposed business expansion. The company manufactures a number of high-grade refractory products.



Interested in Brick Kiln

The Chamber of Commerce of Nacogdoches, Tex., is interested in receiving plans for the erection of a kiln for brick burning.

New Brick Interests at Norfolk

James B. Porter, of Norfolk, Va., has announced the desire to obtain data on clay brick machinery for a plant of ten thousand brick per day. A new works is to be placed in operation by the interests represented by Mr. Porter.

With Our Canadian Neighbors

Canadian Fireclay Products, Ltd., Toronto, Ont., has been incorporated with a capital of \$40,000.

L. W. McArthur, superintendent of the Sun Brick Co., Toronto, has returned to Montreal to manage the plant of the Mack Brick Co., which has been purchased by the National Brick Co., Montreal. Mr. McArthur left the National Brick Co. to establish the Mack Brick Co., but this plant has been idle recently, due to lack of orders during the war. It is understood that some improvements will be made to the plant this year including new kilns.

W. O. C. W. A. and O. D. A. to Hold Joint Convention at London, Ont.

The Western Ontario Clayworkers' Association and the Ontario Drainage Association have decided to hold a joint annual convention at the Builders' Exchange, London, Ont., February 24 to 26, inclusive. C. S. Parker, London, is president of the W. O. C. W. A. and Gilbert Armstrong, Fletcher, Ont., is secretary.



"This country is the soundest, healthiest, wealthiest in the world. If you need a home or a building do not hesitate a day longer in going to work on it."

Perforated Steel Screens

Of Every Description

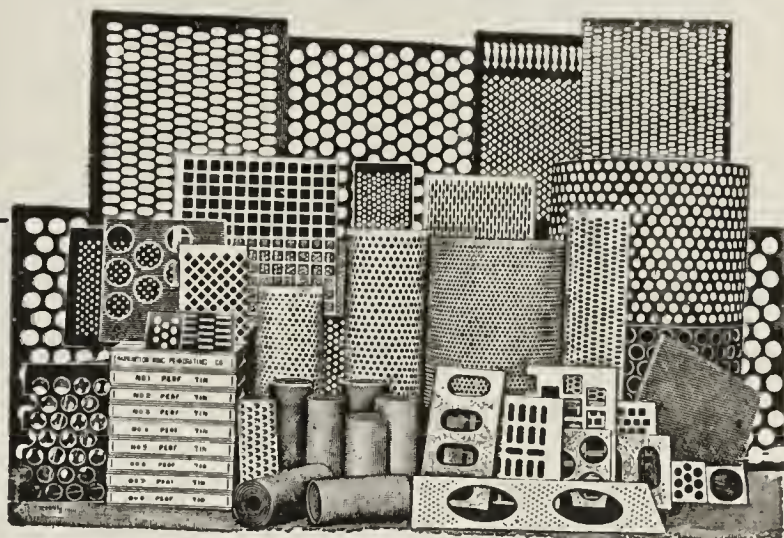
For Screening Clay, Shale, Sand,
Gravel, Stone and Cement

No Other Screens Will Give You Equal Capacity,
Durability and Satisfaction

The Harrington & King Perforating Co.

635 N. Union Ave., Chicago, Ill.

NEW YORK OFFICE: 114 Liberty St.



You won't have to worry about competition
if you treat your clay with

R. H. Precipitated Carbonate of Barytes

You can safely guarantee that your brick
will be

Scum-Proof

You can get a higher price and influence
architects to specify your product because
Efflorescence is prevented absolutely.

But insist on the R. H. BRAND—it's de-
pendable.

*We have a complete line
of high grade chemicals
for the clay industry*

**The Roessler & Hasslacher
Chemical Company**

100 William Street

New York

Chicago, Ill.

Cleveland, O.

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QUESTIONS

A Two Cent Stamp May Bring
You Advice That Will Stop
a Waste, Improve Your Ware
or Lower Your Production Cost

Address all communications intended for this department
to "Editor Questions and Answers," care of "Brick and Clay
Record," Chicago.

Wants to Know How to Glaze Kiln

930. Mississippi—We are rebuilding some of our up-draft
kilns and would like to know how to get the inside of the
furnaces and inside of the kiln walls glazed. If you can tell
us in the next issue of "Brick and Clay Record" what to use
and what proportions and how to apply it, we will greatly ap-
preciate it.

We burn coal and the furnaces become glazed somewhat
in the hottest places, but we want to get the whole inside of
our kiln walls glazed if possible. Also, please advise fully
what is meant by flashing and how it is done and what is the
advantage in flashing common brick.

To glaze the inside of your furnace and kiln walls, use
a mixture of salt and cement in the form of a thin wash and
apply it on the surface you desire glazed. Inside of two or
three burns the surface will be glazed.

A superintendent of a brick plant in Oklahoma uses this
method to glaze the interior of his round down-draft kilns
and claims that it gives good protection and also helps hold
the heat.

By flashing is meant the production of various colors by
controlling the atmosphere in the kiln. By alternating, re-
ducing and oxidizing atmospheres in the kiln, different chem-
ical compounds are formed in the brick which produce a
multitude of colors. The reducing or oxidizing atmosphere
is produced by insufficient or excess air being permitted to
enter the fire-boxes.

There is no advantage in flashing common brick. In fact
it has a disadvantage which requires excess coal. It is only
in the face brick industry that flashing is commonly resorted
to in that it produces variegated colors and makes the brick
suitable for facing purposes.

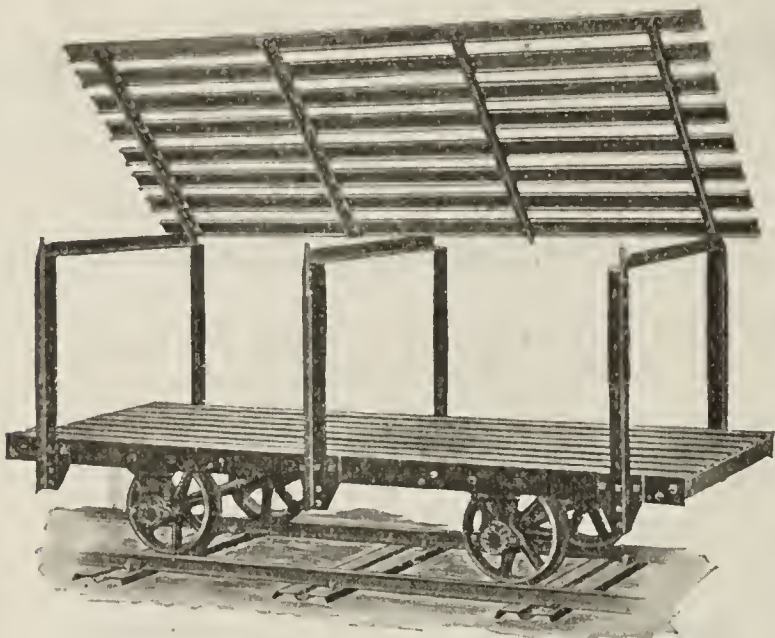
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How Many Brick Are Produced in a Year?

931. Illinois—Can you give me any idea of how many brick
are normally manufactured in a year in the United States by
the stiff-mud process in the following general classifications:
face brick, common brick, paving brick and fire brick?

It is hardly possible to give the number of brick manu-
factured annually in the United States by the stiff-mud proc-
ess in the general classifications named in the inquiry. Of
course, face brick and paving brick are in nearly every case
manufactured by this method. However, there are large
quantities of common brick and fire brick which are manu-
factured by both the soft-mud and dry-press methods.

The figures given below are obtained from the United
States Geological Survey, applying to brick made by all proc-
esses and are representative of the production in the year
1916. For that year there were 1,002,762,000 face brick manu-



Lakewood Double Deck Car No. 167

The Robinson—LAKEWOOD LINE—
Dryer Cars; correctly designed, correct-
ly built, correctly sold.

Frank H. Robinson

General Office - - - - - Pittsburgh, Pa.
Factory - - - - - New Galilee, Pa.



Here's a Pump Valve ^{that's Seen} _{Service}

*I have parcel post you a #80 hot water
valve that I have had 14 years. I have two
boiler feed pumps. One of these pumps is in
service 20 to 22 hours a day. This valve has
been taken out and dressed up several times
with a file and sand paper. also I have tried
out other valves in the same pumps with your
valves I have never found any other valve
that will hold its original size. I have always
spoken highly of your valves and I do not wish
to give you any more credit than is justly
due you, as I have often remarked to the
Cincinnati Agents that there was only one valve
and that was the Jenkins.*



This letter came from
George W. Taylor,
Chief Engineer of the
Cincinnati & Colum-
bus Traction Co. It
tells a true story
about Jenkins Pump
Valves.

JENKINS BROS.
New York, Boston,
Philadelphia, Chicago,
St. Louis,
Washington, D. C.
San Francisco, Pittsburgh,
Montreal, London

*Respectfully yours
Geo. W. Taylor, Chief Eng.*

Jenkins Valves

and ANSWERS

Best Authorities in Every Clay working Branch Are Called Into Consultation—Their Advice is Free to You, Thru These Columns

Should a reply be desired by letter, send a stamped and addressed envelope with your question, and it will be answered promptly.

factured which sold for the average price of \$11.43. The same year there were 7,394,202,000 common brick manufactured which sold for the average price of \$6.68 per M. Also, there were 941,553,000 paving brick manufactured which sold for the average price of \$13.00 a thousand. There were also manufactured 1,376,933,000 fire brick which sold for an average price of \$22.37 per thousand.

✱ ✱ ✱

Brick Become Marked with White Streaks

932. *Pennsylvania—You are no doubt in a position to give me some information which is desired. We were largely inspired to subscribe to your magazine because we believe that it will help us make a better product.*

We make a common red brick. At times the brick are marked with white spots and streaked. Can you tell us how to eliminate entirely this whiteness or tell us how to get the information?

Whiteness on brick is generally caused by a substance which is known to brickmakers as scum. In chemistry this is known as calcium sulphate. This is usually brought about in one of the following ways:

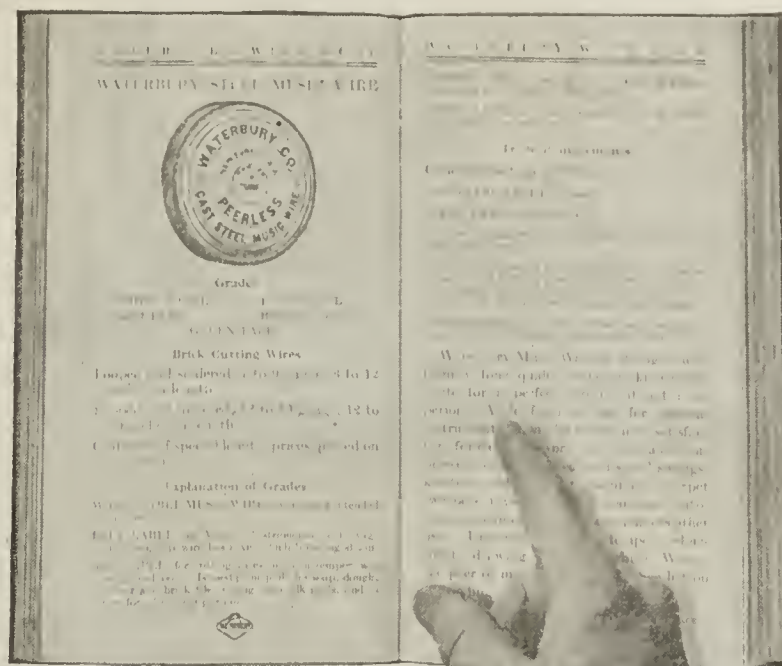
Clays which scum frequently have a high content of calcium and in the burning process the sulphur in the coal unites with the calcium in the clay, forming a sulphate which is known as scum. Other times it is formed in dryers. The condensation of water on the brick draws the calcium salts to the surface and the sulphur in the waste heat is absorbed by the moisture forming a sulphate which is the scum. This also is true in the watersmoking period. When care is not taken in this phase of burning, the lower part of the kiln in case of a down-draft kiln or the upper part of kilns in up-draft kilns may have the moisture which is drawn out of the brick setting nearest the fire settle upon the cooler brick in the section of the kiln farther removed from the fires. The sulphur gases which are then liberated from the burning coal combines with the condensation on the brick setting and forms the scum.

The tempering water may also be the cause for scum, but an analysis would soon show this. In general the sale of common brick is not affected by the scummed surface, hence very few manufacturers of common brick bother about this matter. Face brick manufacturers on the other hand, often meet with this trouble and use a substance known as barium carbonate or carbonate of barytes, which they use in tempering water, and which is very successful in reducing the amount of scum.

✱ ✱ ✱

Different Types of Fire Boxes

933. *Minnesota—We would like to get some information on the best fire box or fire holes for kilns. We should like to*



Waterbury Steel Music Wire

Drawn so fine that a ton of it would reach from New York to Honolulu—and from that size all the way up to wire only 14 feet to the pound.* Waterbury workmanship and material—Waterbury quality—make Waterbury Music Spring Wire true to its brand: "Peerless", not only for musical purposes, but for all sorts of industrial uses; springs, cutting wire, instruments and electrical work.

WATERBURY COMPANY
63 PARK ROW, NEW YORK

CHICAGO

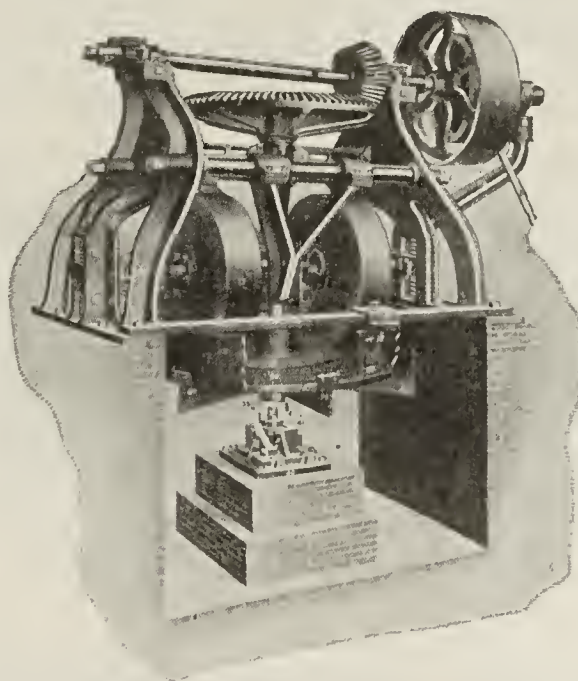
SAN FRANCISCO

NEW ORLEANS

DALLAS

*The Waterbury Handbook has the "dope" on steel wire—and on wire and every other kind of rope, too. There's much in its 220 pages that will be of service. Ask for a copy—it's free.

2335-W



Machines for

Crushing, Grinding, Pulverizing, Empounding, Tempering and Mixing, Elevating and Conveying All Kinds of Materials.

STEAM PRESSES FOR MAKING

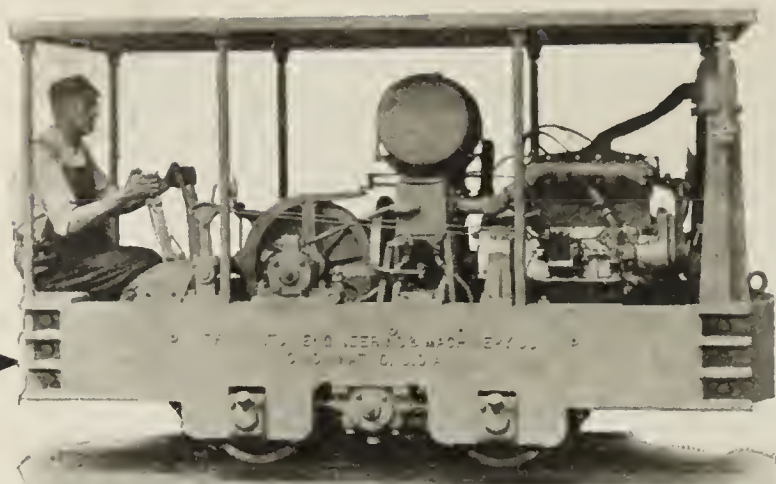
Sewer Pipe, Drain Tile, Hollow Blocks, etc.

All of the highest class designing and construction are manufactured by

THE STEVENSON COMPANY

General Offices and Works: WELLSVILLE, O.

Engineering and Western Sales Offices, Monadnock Building
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BURTON

Gasoline and Kerosene Locomotive

Read these brief specifications and see if they do not measure up to the requirements you expect in a serviceable, dependable and economical yard locomotive.

Burns gasoline or kerosene—no steam to get up. Always ready. $3\frac{1}{2}$ to 12 tons. Any speed forward or reverse with equal power in both directions. Cast iron shell radiator with reversible fan blades which insure ample cooling at all times. No Gears, Clutches, Differentials, no Licensed Engineers.

We would like to explain these specifications in detail and tell you why the Burton locomotive is best adapted for clay plants. Write to

The Burton Engineering & Machinery Co.
Cincinnati, Ohio
U. S. A.

know if the open grates with coking plates are better than grates with doors. Some kilns have doors and grates and the owners claim advantages over the open grate with coking plates.

To me it appears that the doors on the fire boxes would be better than the open grate, altho we have the open grate on our kilns at this time.

There is a great variance of opinion as to the best type of fire box for round down-draft kilns. Of the three types in general use, each has its advocates. The following description of the three kinds of fire boxes will undoubtedly be of interest to you:

Take, for instance, the periodic kilns. The flat grate type is very common in the clay-working industry. The grate is placed in a horizontal position and the air for combustion comes from below thru the bars and the layer of fuel. Since the air supply is thus obtained, the layer of fuel is always relatively thin to allow the passage of air. Because of the thin layer of fuel, there is a great tendency for the fire to burn thru in holes which lets strong currents of cold air into the kiln, if the fire is not constantly watched and attended to. In this respect it is more sensitive to careless firing than the other methods. It can, however, be made to yield high heat efficiency and good combustion if properly attended to.

A useful accompaniment to the flat or horizontal grate is the so-called coking plate. The coking plate is made of heavy sheet iron or fire clay slabs, and upon it the fresh fuel is placed before it is charged into the combustion zone of the furnace. Its position is usually in front and sometimes in front of and above the grate.

In either case radiation from the burning fuel drives off the volatile gases before combustion begins. High volatile coals are burned very efficiently in this type of furnace. However, the fires must be watched with great care, especially where mine run of clinkering variety is used.

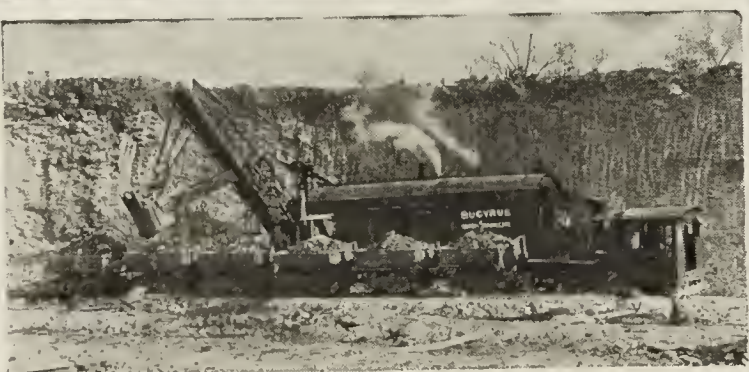
The inclined grate furnace in the periodic kiln differs from the flat grate in having the grate bars set on a slope downwards from the opening into the furnaces. They do not extend to the back wall of the furnace, but are supported by cross bars, one at the furnace door and another six inches to one foot from the bottom of the ash pit, depending upon the slope at which the bars are set and the depth of the furnaces. The angle at which the bars are set is usually forty-five degrees.

A large range of grades of coal can be used in this type of furnace; a low grade of coal can be burned with good results in it.

Dead bottom firing in periodic kilns is done without the use of grate bars. The furnace is constructed with a front ash pit opening for draft, and one above for the admission of fuel. Provisions are made for secondary air supply by a small aperture leading into the neck of the furnace. As the fuel accumulates in the fire box the draft thru it becomes less and more air is admitted from above.

If the coal forms a spongy, viscous clinker, there is tendency for the latter to assume an incline similar in position to the inclined grate bar, and if the clinker is sufficiently rigid and porous, to serve the same purpose. If the clinker is too fusible or lacking in porosity, the coal does not give satisfaction by this method of firing. The dead bottom furnace is gaining in popularity since it is easily handled, costs little to build and burns low grade coal with good results. The best fuel for this type of fire box, however, is mine run of the hard clinkering variety.

BUCYRUS



For Digging Shale

The massive construction and great power which are found combined in

Bucyrus Steam Shovels

have made them famous the world over for long life, economic operation, high steady output and power.

Let our representatives tell you what they can do for you.

110-C— $3\frac{1}{2}$ to 6 cubic yd.	78-C— $2\frac{1}{2}$ to $3\frac{1}{2}$ cubic yd.
103-C— $3\frac{1}{2}$ to 5 cubic yd.	68-C— $2\frac{1}{2}$ cubic yd.
88-C—3 to 4 cubic yd.	

Also all sizes revolving shovels and dragline excavators.

BUCYRUS COMPANY

SOUTH MILWAUKEE, WIS.

New York, Chicago, Cleveland, Birmingham, Minneapolis,
Denver, Portland, Ore., San Francisco,
Salt Lake City.

187

Brick Check in Kiln

934. *Utah—I am burning brick for a brick and tile company and find that after the doors are stopped up and the kiln is cooling, whenever the kiln is opened up there are fine hair checks on the face of the brick. Can you tell me what the cause of this is? In the arches where the brick are directly in the fire, we obtain the best brick, but up in the bench they are checked. Do you think the cause is due to raising the heat too fast after watersmoking?*

The cracking of face brick in the case of this up-draft kiln may be due to many reasons. It is possible that you do raise the heat too quickly after watersmoking, which is sometimes the cause of checking. Then, too, a clay having a high silica content will often offer difficulty of this nature. Further than this, it is also possible to check your brick during the watersmoking period. The brick in the arches get better treatment by reason of being near the fire and consequently do not give trouble due to checking.

If you will study your burning at the watersmoking end, and heat your kiln slower after watersmoking, we believe you will be on the right track in the solution of your problem.

* * *

The LETTER BOX

A Place Wherein Letters
That Have General Interest
Are Published and
Commented Upon

What Is Wrong With the Brick Business?

During the past several months, common brick manufacturers in many sections of the country have had emphasized to them thru Ralph P. Stoddard, secretary of the Common Brick Manufacturers' Association of America, the fact that the per capita consumption of common brick in this country is on the decline. Also, it has been brought out that the number of common brick plants in this country has been dwindling down considerably during recent years and that the industry is now facing a critical period.

That the industry needs to be put on a higher plane has been realized by a number of manufacturers and it is thru the efforts of the Common Brick Manufacturers' Association that this is now in process of accomplishment. A subscriber who is interested in seeing the brick industry reach a higher stage of development, recently had the pleasure of hearing Mr. Stoddard address brick manufacturers, and has written the following letter of interest to *Brick and Clay Record* readers:

To readers familiar with your journal this question of what is the matter with the brick business does not come as anything new. It has been asked a number of times and has been answered in various ways according to the many theories of the different men discussing the question.

To the writer's mind the subject has never been more ably handled and never was a more definite remedy prescribed than that by Mr. Stoddard, of the Common Brick Manufacturers' Association of America, at the last meeting of the Pennsylvania Clay Club, held December 17 at the Fort Pitt Hotel, Pittsburgh, Pa.

Mr. Stoddard at that meeting pointed out that out of four thousand companies that were formerly in the common brick business, there are at the present time less than seventeen

INSURANCE AGAINST FIRE At Actual Cost

The Manufacturers of Clay Products at Reciprocal Insurance Bureau, offers you an opportunity to come in and insure against fire with preferred risks that are of your own class and engaged in the same line of business. This Bureau saves you the expense of paying for (1) enormous overhead, (2) agents' commissions, (3) companies' profits. You are assured of greater safety, co-operative assistance of a practical kind, and better service.

A large Brick and Tile plant owner writes:

"We can truthfully say we have never had more prompt and satisfactory adjustment of claim than in this case."

Write us for rates and our plan to render better service and greater safety.

Manufacturers of Clay Products at
Reciprocal Insurance Bureau
29 S. LA SALLE ST., CHICAGO



Light steel rails

We saved the day for the Clay and Coal Operators in War Times by furnishing BUCKEYE MINE RAILS, whenever and wherever needed, and while many other Steel Mills were running exclusively on other material, you could not have operated without us at that time.

Now, in Times of Peace, we ask that you do not forget us, as we can, and will render the same unexcelled service, and furnish the same high quality of material. "Buckeye means best", and BUCKEYE LIGHT STEEL RAILS are better still. All sections from 12 lb. to 40 lb. inclusive always in stock for quick shipment.

Let us have your inquiries, and we will take the chance of developing them into orders on our books.

THE BUCKEYE ROLLING MILL COMPANY
STEUBENVILLE, OHIO

"HURRICANE"

AUTOMATIC

Stove Rooms and Mangles for Clay and Porcelain

are designed for individual plants.

Individually designed dryers result in greater uniformity of drying and greater uniformity of shrinkage—better ware.

They reduce floor space required. They reduce the number of moulds, labor, etc., from 50% to 75%. An equally large reduction in drying time.



Delivery End of Automatic Stove Room,
Buffalo Pottery, Buffalo, N. Y.

There are many other advantages of our installations which we would like to have an opportunity of explaining. Let our engineering department help you with advice and suggestions. No obligation.

Illustrated Circulars will be sent you on request

Automatic and Truck Systems

The Philadelphia Drying Machinery Co.

Stokley St., above Westmoreland

Philadelphia, Pa.

hundred. While, of course, some of the companies have discontinued business because they have exhausted their deposits of raw material, the number of companies suspending business for that reason is pitifully small, for most all of them are out of business because for years the margin between what it has cost to manufacture brick and the selling price has been insufficient to pay dividends not to speak of accumulating a surplus. Hence many of them were unable to stand the adverse conditions brought about by this country's entrance in the late war.

Today there is a general shortage in every kind of manufactured article, the brick business included, and many manufacturers are congratulating themselves that there has been a general revival in the favor of brick buildings. This happy state of affairs they feel is likely to continue indefinitely. However, Mr. Stoddard points out that the consumption of brick per capita has been steadily growing smaller so that it is logical to infer that the demand which at the present time exceeds the supply, must either be due to so many plants going out of business or because the growth of manufacturing plants has not kept in pace with the industrial growth of the rest of the country.

Mr. Stoddard made an earnest appeal to the manufacturers for them to stand on a common level. He urged them to support the newly organized Common Brick Manufacturers' Association of America in its scheme of advertising which would so stimulate the demand for common brick that there will be a greater demand with each succeeding year. We all know the advantages to be derived by using brick for building purposes, namely, economy of first cost, permanence of construction, less risk from fire with the resulting lower cost of fire insurance, lower cost of upkeep as brick buildings do not require constant coats of paint, not to speak of a brick building being more artistic. Yet, of what use is it for us to know this unless the general public, who are the legitimate consumers, know about it? But how are they to know these advantages unless we tell them? Where has there been any plan brought forward which is equal to the one now being advanced by the Common Brick Manufacturers' Association of America? As far as the writer's knowledge goes, there has never been an attempt made to rescue the brick business from its present condition that can in any way be compared with the one prescribed by the Common Brick Manufacturers' Association. Brick manufacturers have been for years in the same position as that described by a poet who said, "Like children crying in the night, and with no language but a cry."

Speaking not as a manufacturer but simply as one who works for a salary, the writer cannot help but be unfavorably impressed by the unfortunate conditions brought about by the "Laissez Faire" policy of the average brick manufacturer because employees suffer just as much as they do. Also, we are just as anxious to see the brick business placed on a higher plane and take its place as an honorable and highly developed industry. As a manufacturer, every one knows that it takes both application and intelligence to run a brick plant with success. It is only because of the conditions which the Common Brick Manufacturers' Association are trying to improve that we are today a poorly paid and despised industry.

If everyone will only make a concerted and sustained effort it will not be long before we shall all begin to reap the benefits which must inevitably follow and the industry as a whole will rapidly assume a more prosperous condition. The manufacturers, executives and employees can then share in the general prosperity which the whole country is enjoying at the present time, but which those engaged in the common brick business are not having a full share of.

My reason for writing this is because I believe there are many men who are engaged in the brick business who have not had the opportunity of hearing Mr. Stoddard, who should be advised of this effort on the part of the Common Brick Manufacturers' Association and if you can add the force of your influence to what is already being done, it will be aiding the movement in a most desirable manner.

In commenting upon this letter, it only need be said that *Brick and Clay Record* has always urged that the industry take up these problems and has heartily endorsed the activities and undertakings of the newly organized Common Brick Manufacturers' Association.

Sustained Activity Prediction for 1920

Sustained industrial activity is the prediction of the Committee on Statistics of the Chamber of Commerce of the United States, which has issued its regular end-of-the-year review of business and crop conditions.

The committee emphasizes the hopefulness of the manufacturing industry generally, which altho encountering constant labor troubles and shortage of fuel and materials, has orders in excess of its capacity for production within any reasonable time.

"Among the vast numbers of retail dealers," says the report, "there seems to be a confidence in the continuation, at least until another harvest, of the present great demand for commodities of all kinds, because of the unexampled strength of the agricultural situation.

"On the whole the farming communities are prosperous, because of the high prices of their products and their liberal spending is the backbone and sustaining power of the present volume of business in much the greater part of the country. The farmer is buying liberally and intelligently. He is buying more automobiles, more tractors, more poultry, more blooded cattle, more farm implements and machinery, more gasoline engines and electric lighting plants for his dwelling-house and buildings. He is paying cash mostly and also paying off what comparatively few mortgages remain."

Of the general crop situation the committee says that rain did much damage in the South and in the southern portion of some of the Central States to unharvested crops, reducing the yield and impairing quality. Cotton was damaged as were corn and rice. Rains in the wheat belt cut the area planted in the fall to 25 per cent. less than the record acreage planted last year. The ground lost to winter wheat will go to other crops, including corn and oats.

"Even without the handicap of unfavorable weather," says the report, however, "there would have been a materially reduced winter wheat acreage this fall. For the farmer realized that the hey-day of winter wheat production at high prices was over for the present, whatever may be the currency and repetition of those food famine scares which have lost much of their potency of late."

The conditions of growing wheat, says the report, averaged lower than last year, due to the excessive rainfall. Of other crops and yields the report says that peanuts did not do so well last season; the high price of sugar brought a heavy crop of sorghum and cane syrups; the apple crop was a large one.

Great activity in building is reported in sections except where crop failures were extensive; soft coal mining is in poor shape in contrast to the mining of hard coal; copper mining is in a poor state; silver mining is doing well; oil production is good.

* * *

Robertson Art Tile Co. Changes Ownership

Effective January 1, changes have been made in ownership at the Robertson Art Tile Co., Trenton, N. J., with works at Morrisville, Pa. A. D. Forst, president of the company, has acquired the interests of Robert K. Bowman, Everett Townsend and Mrs. A. S. Townsend, wife of the former owner of the company, and will take his two sons, D. Parry Forst and A. D. Forst, Jr., into the business. Mr. Townsend has been connected with the organization for many years, serving in various capacities, both in the accounting and manufacturing end. He has been general manager in charge of production for some

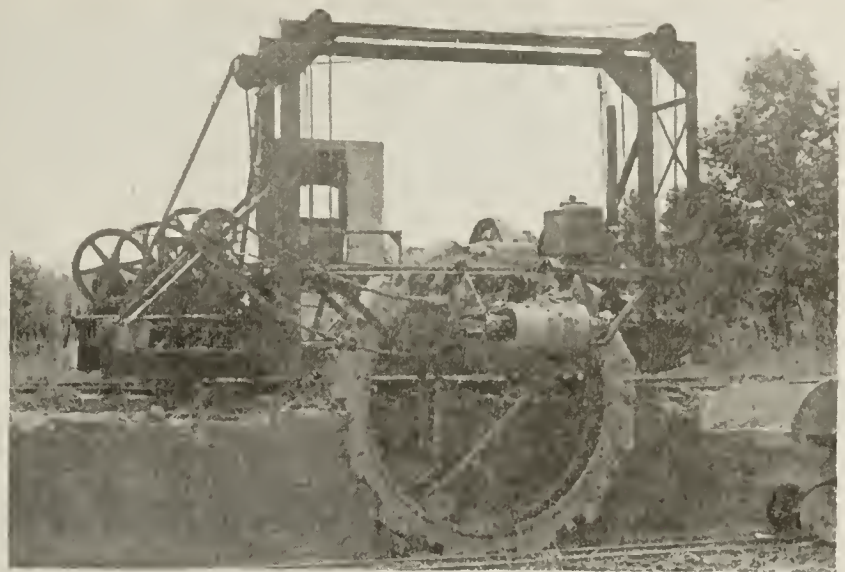


Figure the cost of UP-KEEP

Perfect mixture and saving in labor are not the only points to consider when you buy a clay digging machine—cost of upkeep is of equal importance. A digger that mixes clay and saves labor, but runs up expense for fuel and repairs, is an expensive machine at any price.

"The up-keep of the Buckeye Traction Clay and Shale Digger is small," writes one of our customers. "The only thing wearing out to any extent being the spades of the cutters that shear the clay off, and the side cutters. Our blacksmith relays these with steel again. It takes only two sets of cutters to run the season." The cost for oil and grease is negligible.

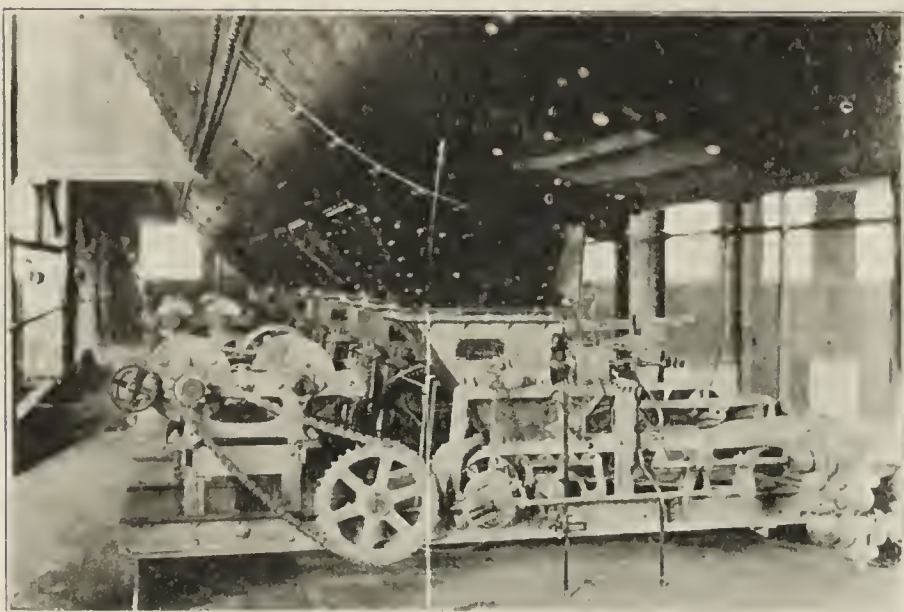
Write us about the conditions in your clay pit. We will be pleased to send you figures and data.

The Buckeye Traction Ditcher Co.,
Findlay, Ohio

Buckeye

Traction Digger

The new Model C. M. is equipped with a combination conveyor which enables operator to change his discharge from pit to bank delivery, alternating as desired.



Here They are— 9 of 'em

Working in batteries of three each, these 9 Schaffer Poidometers are measuring, weighing, and delivering material at less cost and with better results than the job was ever done before. Every third machine in each battery is equipped with liquid measuring attachment.

The Schaffer Poidometer

does all the work of your pug mill man. This saving in labor is sheer velvet. Machine improves the temper of column. No more cracked ware from the dryer. Weighs from 11½ to 21,000 lbs. per minute according to size and adjustment. Weight controls gate; gate controls feed. 99.75% accurate. Have you investigated the merits of this machine—savings in labor and increase in perfect ware that is possible at your plant? *Write us for information and data.*

The Schaffer Engineering & Equipment Co.

Peoples Bank Building,

Pittsburgh, Pa.

time past, and now retires from this position. The company was organized in 1890 by George R. Robertson, and with whom Mr. Forst and the Bowmans were associated; in 1895, the late A. S. Townsend and his son, Everett, purchased the Robertson interests. D. Parry Forst, who now assumes an official position with the company, is a graduate of Princeton University and has had four years' training in ceramics in the Ohio State University. The company specializes in the production of floor and wall tile, with output of about 1,500,000 tile per year; about 150 persons are employed at the present time.

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Contractors Cannot Be Held Liable for Filling Pre-War Contracts

The millions of dollars worth of contracts which were entered into before the war calling for drainage and levee work need not be carried out, R. H. McWilliams of Memphis, Tenn., president of the Levee and Drainage Contractors' Association, told members of that organization when they assembled in convention at St. Louis recently. Mr. McWilliams was re-elected president of the association. He declared that the fulfillment of the contracts would mean a loss which the contractors could not stand in view of the great increases in the cost of materials and labor since the war began.

Mr. McWilliams was supported in his statements by another speaker before the convention, Earl R. Ferguson, an attorney, of Shenandoah, Iowa, who said that the contractors could not be held liable for the fulfillment of the contracts entered into before the war began, as they could not naturally foresee the changed conditions which made the completion of such works at the figures stipulated unreasonable.

Mr. McWilliams said that many contracts were made in prewar days to do work at 8½ cents a cubic yard and that the prevailing price for similar work is 18 cents a cubic yard. Material has gone 100 per cent. higher, he pointed out, and the cost of labor has mounted as high as 125 per cent.

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Lumber Supply Being Fast Depleted

The Forester of the Department of Agriculture states in his annual report that the rate of depletion of forests of this country is more than twice, probably three times, what is actually being produced by growth in form serviceable for products other than firewood. Consequently, high prices of lumber are not wholly due to increased costs of production. An important factor is the ever-retreating sources of timber supply. Already the supplies of all the great eastern centers of production are approaching exhaustion, with exception of the South, and even there most of the mills have not over ten to fifteen years' supply of virgin timber. Already the southern pine is being withdrawn from many points as a competitive factor and its place taken by western timbers. This inevitably results in added freight charges, which the consumer must pay.

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From a Labor Leader Who Was Not at the Industrial Conference

"We cannot force the contractors to pay us more than they get out of their contracts. The employer cannot force us to work for less than we can live on. The public cannot

afford to pay exorbitant sums for work done. Tilting wages on one hand results in tilting prices on the other, and the mass of people cannot stand this forever. Capital everywhere is studiously considering ways and means to intensify production of goods and materials as the only solution. We in turn must consider ways and means to intensify production by doing more work in the same time than we have been doing. Gone is the day when we could think that it was simply a case of getting all we could for our labor; gone is the day when Capital endeavored to get all they could for the least they had to pay. It has now come to a condition where Capital and Labor are vitally concerned in the economic disaster that is sure to overtake our country should conditions continue as they have been going."—*William Noonan, Vice-President, Brotherhood of Electrical Workers.*

* * *

Production in Germany

In some factories, after working eight hours a day for themselves, German workmen put in three hours extra time for the sole benefit of the Fatherland, says the foreign correspondent of the New York "Evening Post." The German government has drilled into the minds of the working men of that country that it is only by their work that Germany can again take her place in the world and every effort is being made to increase production. "With other nations spending money in international trade—a money that is falling in value—the Germans feel that Germany will shortly begin to rehabilitate herself. She does not intend to buy a single luxury from the outside world; she does not intend, indeed, to buy anything for which she cannot pay in some finished product. She intends to produce something for everything that she uses. She is thus giving her workmen employment and is even securing raw materials without spending her gold or her credit."

* * *

Bulletin on Silica Issued

One of the new publications issued by the United States Geological Survey is that designated as "Silica in 1918," which is Bulletin II:17, and may be had from the Government Printing Office, Washington, D. C. The book describes the industry in 1918 by states.

* * *

A Fish Story With a Moral

Put one hundred men on an island where fish is a staple article of sustenance. Twenty-five of the men catch fish. Twenty-five others clean the fish. Twenty-five cook the fish. Twenty-five hunt fruit and vegetables. The entire company eats what thus is gathered and prepared.

So long as everybody works, there is plenty. All hands are happy.

Ten of the allotted fish catchers stop catching fish.

Ten more dry and hide part of the fish they catch.

Five continue to catch fish, but work only part of the day at it.

But the same number of men insist on having the same amount of fish to eat as they had before.

The fifty men who formerly cleaned and cooked the fish have less to do, owing to the under-supply of fish. But they continue to demand food.

Gradually greater burdens are laid upon the fruit and vegetable hunters. These insist upon a larger share of fish in return for their larger efforts in gathering fruit and vege-

Even water with 40% solid matter doesn't worry a Pulsometer

It drains off clay beds like a hungry hobo drains a chowder bowl.

A Pulsometer has no pistons and piston rings, stuffing boxes or glands to be affected by gritty material. There can be no scoring or wearing of sliding parts—for there are NO PARTS THAT SLIDE.

NEEDS NO OIL—no parts to oil.

JUST FEED IT STEAM—that's all—and it PUMPS. You don't have to be a "pump artist" to run it, either—just turn on the steam—and forget it.

A Pulsometer doesn't need a foundation—just hang it anywhere.

It's quickly and easily moved from place to place to drain off different parts of clay beds and this added to its ability to handle gritty, "sediment" water makes it "strong" with "Brick Makers" everywhere.

If you want care-free, expense free, "year in and year out" pumping "get wise" to the Pulsometer—there's a catalog telling all about it, ready and waiting for your name.

PULSOMETER STEAM PUMP CO.

Executive Offices, 224 West 42nd Street
New York City

Agencies in Following Cities:

Harold L. Bond Company, 383 Atlantic Ave.....	BOSTON	Beckwith Machinery Co., 108 Parkway, N. S.....	PITTSBURGH
Henry H. Meyer Company, 110 S. Howard St.....	BALTIMORE	W. L. Sullivan Machinery Co.,	PITTSBURG, KAN.
Liberty Steel Products Co., McCormick Building.....	CHICAGO	F. H. Hopkins Company.....	MONTREAL
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Miller Supply Co.....	HUNTINGTON, W. VA.	Shippers Commercial Corp'n., L. C. Smith Bldg.....	SEATTLE
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2008-M

PULSOMETER

STEAM PUMP



The Gateway to Better Things BOOKS

The Master Workman has a Master Mind—he knows perfectly his own merit, and in order to increase his knowledge, he studies the methods of other men—in the only way that he can—in books. If you would be master of your work you must read and know what others know.

Bricks and Tiles.....	\$1.50
Brick Drying (English edition).....	1.00
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Bricklaying System	3.00
Brick Work (Walker).....	.65
Brickwork and Masonry.....	3.00
Building Construction and Superintendence, Part I, Masons' Work.....	6.00
Bungalows, Camps and Mountain Houses.....	2.00
Ceramic Industries—A Treatise On (E. Bourry).....	7.25
Clay and Pottery Industries.....	6.00
Clay Plant Construction and Operation.....	4.00
Clays: Their Occurrence, Properties and Uses....	5.00
Clayworker's Handbook.....	2.50
Clay-Working Problems.....	1.50
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Observations on Pottery.....	.60
Pottery	1.25
Powdered Coal as a Fuel.....	3.00
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Practical Farm Drainage.....	1.60
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Steam Power	2.50

Select the books that you want the most, and we'll send them to you postpaid upon receipt of price, but we can't send any books on approval. All foreign books subject to 15 per cent. import duty.

Address, Book Department,
Brick and Clay Record
610 Federal Street, Chicago, Ill.

tables. It is denied them, and soon twenty of the twenty-five quit gathering fruit and vegetables.

Comes a day when there is no food of any kind. Everybody on the island blames everybody else.

What would seem to be the solution? Exactly! We thought you would guess it. For we repeat, that you can't eat, buy, sell, steal, give away, hoard, wear, use, play with or gamble with WHAT ISN'T.—*Michigan Manufacturer and Financial Record.*

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The War Isn't Over—Financially

To work and to save, is the Federal Reserve Board's formula for correction of difficulties in prices. The remedy, it says, is to "work regularly and efficiently, in order to produce and distribute the largest possible volume of commodities; and to exercise reasonable economies in order that money, goods and services may be devoted primarily to the liquidation of debt and to the satisfaction of the demand for necessities, rather than in extravagance or the gratification of a desire for luxuries. The war is over—in a military sense—and while bills have been settled by loans to the Government, these obligations, so far as they are carried by the banks, must be absorbed before the war chapter of the financial history of the country can be closed."

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Russian Insecurities!

The Peoples Commissary Council in Russia has evolved a delightfully simple way of nationalizing industry. Its naive charm is overwhelming. It declares that all capital, stock and bonds in newly organized private undertakings are null and void and all obligations of such undertakings to private persons are void. On the other hand—and here the almost kittenish humor of the mad wags of Petrograd is evinced—all obligations of private persons to the undertakings mentioned above will be considered valid and will be carried out. In other words, I really must deprecate any interest you may have in what I owe you—but when it comes to what you owe me—ah, my dear friend, that is a horse of quite another color and really a most sacred obligation. As to the ethics of the matter they are lost in the eternal golden glamour of "something for nothing."—*The Nation's Business for November.*

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Abolish U. S. Housing Corporation

The House of Representatives voted on December 17 to abolish the U. S. Housing Corporation, and directed immediate sale of all its properties except Government dormitories on Union Station plaza, Washington.

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M. C. Tuttle, general manager of the Aberthaw Construction Co., of Boston, and former member of the War Industries Board's Emergency Construction Committee, points out the danger of expanding industrial districts without providing homes for workers. He states that dwelling houses are needed everywhere.

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It has been announced in the New York "Times" that the Bureau of Statistics for Canada, in its provisional estimate for 1919 yield of field crops of the Dominion, puts the total yield of wheat for all the Province at 196,361,000 bushels. At the average price of \$2 a bushel, this means that Canada's wheat crop for 1919 will be available for export.

MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories
and Detailed Announcements that Our Ad-
vertisers Believe Will Interest Our Readers

Repeat Orders Prove Satisfaction

More evidence as to the value of the automatic unloader, manufactured by The Columbus Conveyor Company, West Goodale Street, Columbus, Ohio, has been received in the form of a letter from the Cleveland Builders Supply & Brick Co. This letter, signed by Lawrence B. Koblitz, treasurer, reads as follows:

"It is with pleasure that we are able to recommend your Automatic Unloader to prospective customers.

"Since the installation of the original order at our Pearl plant, we have installed duplicate of this outfit at three other plants, and as you are aware we have order placed for the installation of another unloader.

"We have found that your outfit performed exactly as represented by you and we are more than satisfied with results."



Efficient Method of Handling Brick

The accompanying illustration is from a photograph taken at the plant of the Windsor Brick Co., Akron, Ohio, showing how they are efficiently handling their brick.

A gravity conveyor feeds the B-G Style of G Conveyor, which in turn loads the truck. Note how well the brick are distributed on the truck—more than 2,000 of them, and all loaded with but two men in the kiln.

Production is speeded up by emptying the kilns so much faster, and this is a vital factor in the clayworking industry today. Not only this, but the breakage is less than with old methods as the ware is dropped but once as against several times when wheelbarrows are used. The Windsor Company find the conveyor system a great success.



Speeding Up Work With A B-G Conveyor

This is but one of many similar installations placed throughout the country by the Barber-Greene Company, Aurora, Ill.



The culminating feature of one of the most successful years in the history of the Hill Clutch Co., Cleveland, was the tempting chicken dinner served to over 300 employees in their large main dining hall, Wednesday afternoon, Decem-



YOUR LAMPS COST MONEY PROTECT THEM

Thousands of lamps are broken every year. The seemingly small loss of a single lamp may not be noticed but the annual cost represents a considerable percentage of the overhead expense. Every time a lamp is broken your cost of production is increased.

Why not safeguard your lamps with

FLEXCO-LOK EXPANDED STEEL LAMP GUARDS

Flexco-Lok Lamp guards are made of expanded steel, well coated with tin. They are easily adjusted and **LOCKED** with a key. This prevents theft or unauthorized removal. The shape of the guard is scientifically designed to resist any shock to which it is subjected thereby safeguarding the lamp from breakage.

Flexco-Lok Steel Lamp Guards cost less than a single broken lamp. You will effect a real economy by installing them throughout your factory.



Flexible Steel Lacing Co.,

Dept. LG32

Sole Manufacturers

522 So. Clinton St.

Chicago, Ill.

COUPON

The Flexible Steel Lacing Co.

Dept. LG32, 522 So. Clinton St., Chicago, U. S. A.

Gentlemen: Attached hereto is our regular business letterhead. Please send us Free for service test one Flexco-Lok Guard for 40 Watt Lamp; and information concerning the Flexco-Lok Reflector Guard.

Also send me folder describing Alligator Steel Lacing—the hinge joint requiring only a hammer for application. Kind of lamp socket.....(If weatherproof, give diameter above shade holder rings.)

Firm Name.....

Per

Address



Start the New Year With a Mathews

IF men are scarce—if strikes are threatening—put a Mathews Gravity Conveyor on the job.

For it's the modern way to move brick and tile from kiln to car, and around the yard. Patented flanges on the roller ends keep materials safely aboard. This makes guard rails unnecessary.

And the Mathews Gravity Conveyor accomplishes its tasks better than a squad of men. It speeds up the work and cuts costs.

We suggest that you investigate this modern, saving method at once. The demand for Mathews conveying systems grows bigger each day. It may shortly become impossible for us to offer early delivery.

Write us now.

MATHEWS
SPEED  ECONOMY
GRAVITY ROLLER CONVEYER

MATHEWS GRAVITY CARRIER CO.

108 Tenth Street, Ellwood City, Pa.

Branch Offices: Port Hope, Ontario London, England

ber 31, 1919. After dinner and cigars, with candy for the ladies, Mr. J. B. Perkins, President, made an interesting address. The balance of the afternoon was given over to a splendid program of musical and vaudeville events. The feature of the entertainment was the fact that all the talent was selected from among the employees of the company.

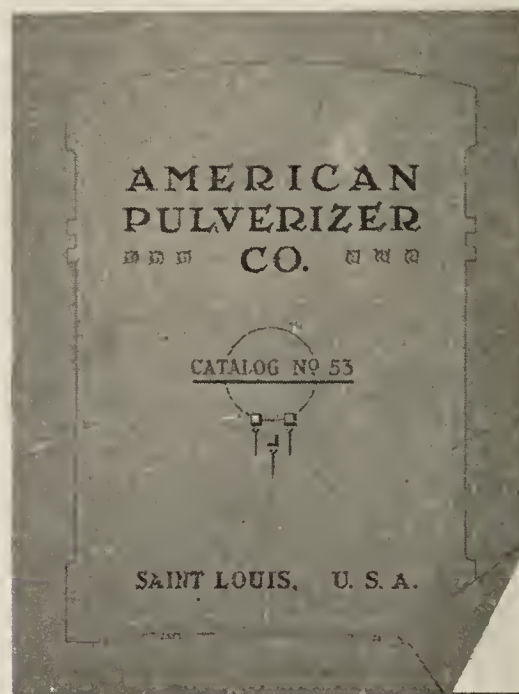
The Hill Clutch Co. is located on the west side and manufactures a complete line of power transmission machinery, which is sold in this country and abroad.

✂ ✂ ✂

Grinding Shale Faster—Less Cost

A new catalog of interest to clay manufacturers has been published by the American Pulverizer Company. It pictures a New Model Clay Plant Pulverizer, and explains the economy and unusual capacity of this machine.

This pulverizer, as well as all other machines manufactured by the above company for clay manufacturers, is not a wet clay machine, but a crushing, grinding and pulverizing machine for dry or frozen clay and all shales. For this kind of material users say it is unsurpassed, having two or three times the capacity of other grinding machines. Every



New Catalog Issued by American Pulverizer Co.

clay manufacturer who has shale or dry clay to grind, and who is interested in increasing the flow of clay to the pug mill, should investigate what the New Model American Ring Pulverizer can do for him.

The record of earlier model machines in various clay plants in different parts of the country promises big things for this new model. The address of the American Ring Pulverizer is 18th and Austin Streets, St. Louis, Mo.

✂ ✂ ✂

Fontaine demountable bodies are described in Bulletin No. 26, which has just been received from the printers by American Truck Body Co., Inc., Martinsville, Va., manufacturers. These demountable bodies are proving to be great labor savers for the contractors, transfer companies and brick-makers. Ask them to send you a copy of the bulletin if you are interested.

✂ ✂ ✂

The Hill Clutch Co., of Cleveland, O., has appointed D. F. Collins as their Eastern representative in charge of their New York office, 50 Church Street. Mr. Collins has been connected with the general sales department at Cleveland since receiving his discharge from the service last summer.

✂ ✂ ✂

Hugh L. Sigel, formerly general sales manager for the Ford Roofing Products Co., is now with Walter A. Zelnicker Supply Co. as assistant to president.

The Zelnicker Supply Co. handles railway, power plant, contractors', saw mill and industrial equipment and machinery of all kinds.

✂ ✂ ✂

The Arnold-Creager Co., New London, Ohio, advise that they are shipping one of their automatic brick machines to the Consolidated Brick Works, Horseheads, N. Y. Also they are shipping another automatic brick machine to the C. H. Klein Brick Co., Chaska, Minn., a total of five for this concern. One of the automatic machines is going to the Baltimore (Md.) Brick Co.

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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To

decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

The Chinaman on the Clay Plant?

NCESSITY is the mother of invention! The present unprecedented shortage of common labor has set thinking great captains of industry as well as nearly every clay plant owner whether he be in the 1,000 "horse" or one mule power class.

It is axiomatic that a clay plant cannot be operated without labor, altho we remember a certain very prominent and well beloved ceramic engineer describing to us a "dream" plant in which the labor element was conspicuous by its absence. If our memory does not fail us, the work "was done" by steel arms and legs propelled by mechanical "brains." But the day was hot—it was in July—and the atmosphere was oppressive, which may account for the details of this "dream."

* * *

Nearly 1,000,000 foreign-born laborers have left the United States for Europe since the armistice was signed, and 1,000,000 more will depart as soon as passport regulations are made less strict, according to a statement issued by the Inter-Racial Council of New York. The council reports that "tens of thousands of aliens are giving up their jobs preparatory to returning to their home lands and many of these, as the result of racial prejudices, will take back with them stories of America which will make this country less attractive to immigrants."

To this, might be added the following: "The Associated Press from New York, under date of December 30, announces that, in the opinion of immigration authorities of that city, heavy immigration, which has taxed the facilities of Ellis Island and delayed unloading of steamships at that port, **is only temporary** and presages **no great influx** of foreigners that will affect the labor market of the United States. They estimate that next year's immigration thru New York will be only 300,000 as compared with pre-war figures of from 800,000 to 1,000,000 annually."

It is evident, in view of these facts, that the outlook for capacity operations in the clay products manufacturing industry at a time when maximum production is highly desirable, is not exactly promising.

There are two methods of attacking the problem and of seeking a solution. One is to pare down the labor required to operate the plant, to the very bone; the other is to discover and develop a hitherto undeveloped source of labor supply.

Of the first, let it be said the clay products manufacturer who does not utilize to the fullest extent all of the labor-saving devices, methods and systems **now** at his disposal is simply throwing away a golden opportunity to avoid worry and trouble, and to save good money. The pages of this magazine, both editorial and advertising, without ceasing in season and out of season, have emphasized, reiterated and re-emphasized the wisdom and prudence of employing every machine, arrangement and scheme toward labor economy.

Regarding the second method of attack, that of developing a new source of labor supply, it is evident that this is not possible, within the confines of the U. S. A. Are we then to look to Europe? If so, what country? Certainly not Russia—the destination of the "soviet ark!" Hardly to England or France whose man power has been sadly depleted by more than four years of fearful bloodshed and slaughter. Germany is out of the question. Italy and Greece in common with other nations, are beckoning to their sons here in America to "come back home." We believe the immigration authorities were not far from correct when they estimated that 300,000 and not a million foreigners who normally come into this country every year, would seek entrance during 1920.

* * *

Out of the clamor of voices, sounding forth individual and collective claims as to just who "won the war," the voice of at least one group

has not been heard. Brilliant writers and correspondents have discoursed at length on the daring bravery of the American "doughboy"; on the bull dog tenacity of the British "Tommy"; "They shall not pass" is recalled to demonstrate the desperate stand of the "poilus"; aeroplane and motor truck have been lauded; mechanic and merchant praised, but the work of thousands of Chinese coolies "back of the lines" has gone unnoticed. These human toilers, bearing the brunt of the heavy labor incident to military operations of preponderous magnitude, if not directly responsible for winning the war, had a large part in the success of the military program.

It is now proposed to present to Congress a memorial asking for relief from the present distressing and disturbing labor shortage which would permit a limited number of Chinese or other Asiatic laborers to enter the United States as well as those from our insular possessions and Mexico, under the supervision of a Commission representative of the Departments of Labor, Interior, Agriculture and Commerce, the American Federation of Labor, and the business and farming interests of the country.

The Chinaman is not a bolshevist, he is a pacifist. His standard of living is not such to warrant abnormal and extravagant wage demands. He is a tireless worker and is skillful with his fingers.

It was originally proposed to use the Chinaman upon the **farms** of the West to relieve the tremendous labor shortage there and **produce** food stuffs in such quantity as would materially lower the cost of living. Recently, however, many business men have manifested an interest in the subject in view of the possibility of securing sufficient labor for necessary industrial expansion in the East.

* * *

We see no reason why Chinese could not be used as common rough labor on American clay plants. Their intelligence is at least of as high an order as the Slavs and similar peoples from Central Europe. There is, no doubt, a great deal of sentiment that would interfere in many cases, with their immediate employ-

ment. The feeling on the Pacific Coast is decidedly anti-oriental (and, no doubt, with just cause) but this feeling grows less keen the farther one journeys eastward.

There may be some real objections to the employment of Chinese on our clay plants but if there are we do not see them. Perhaps someone who has given this subject considerable study and who has had some experience with this class of labor, can help us out!

Machines That Replace Labor

REFORMS AND CHANGES in plant operation always move slowly in industry. There are any number of reasons for this, the common one being that a manufacturer usually likes to see the other fellow assume the expense of experimenting. If the plan works successfully with the other manufacturer, he adopts it. If it fails he feels that he has saved time and expense in unfruitful research.

We do not agree that the above policy is always the best to follow but do not wish to discuss this matter at this time. The shortage of labor has seriously affected plant production. Progress has been slow in the installation of new equipment and apparatus that could reduce or take the place of labor. Any number of clay manufacturers would enjoy life better if some device could be found that would take the place of wheelers, of which there seems to be such a great scarcity at the present time. However, there is a way to move clay ware that has had the test of time and is being used more extensively in the clay industry with each succeeding year.

Industrial trucks and tractors, both gasoline and electrically propelled, are coming into more prominence in the industry. That the manufacturers of this equipment have faith in the adaptability and opportunity for cutting labor costs on clay plants with this equipment, is shown by their confidence in advertising in the pages of "Brick and Clay Record." For instance, in the January 13 issue there were five firms advertising different forms of automotive trucks for the transportation of clay or ware about the factory. This has more than passing significance.

CANADIANS ENJOY *with* PRE-WAR



THOMAS KENNEDY.

HAD IT NOT BEEN for the general fear of the small-pox epidemic and the caution many wished to take because of it, the eighteenth annual convention of the Canadian National Clay Products Association would have undoubtedly exceeded the attendance of any previous convention. As it was, this year's meeting, which took place at the Prince George Hotel, Toronto, on Tuesday, Wednesday and Thursday, January 20, 21 and 22, was the largest in attendance since 1914. Fully eighty-five people were present at the various sessions. Because of the inconveniences brought on by the vaccinations which visitors from other provinces and from the United States are required to suffer due to the strict vigilance of health officers, many guests from those parts would have attended who were not present. The convention was run very smoothly and there was something going on all the time; in fact, one had practically no time for himself since the intermission between sessions, and between sessions and entertainment, and excursions, was very short indeed.

The program contained a list of papers which were of unusually high caliber and of spell-bound interest. The long and spirited discussions which followed nearly every paper are witnesses to the above fact. It was developed at this convention that Canadian manufacturers are experiencing an unusual demand for clay ware and expect that it will continue for several years.

Owing to the delay of trains brought about by inclement weather on Tuesday, the opening session was not as fully attended as those that followed. However, a good number were on hand to enjoy the welcome address given in the morning by C. A. Miller, chairman of the local entertainment committee. Following the response to this address by Alderman W. H. Freeborn, of Brantford, and D. C. Merkley, of Ottawa, Wm. Burgess, superintendent of the Don Valley Brick Works, of Todmorden, and the enterprising president of the association, gave his address depicting the origin

and progress in work done by the association since its innovation. He said:

"Custom has decreed it the duty of the presiding officer of this association at the end of his term of office to address you and to give a report as to his stewardship during his term of office. If it were not for this custom I can really see but little excuse for addressing you on this occasion. However, you are entitled to show something as to what we have done, what we are doing and what we may do.

"The Canadian National Clay Products Association is now entering upon its nineteenth year. In 1901 a few of the progressive brick and tile manufacturers of this country got together and organized this association. During this period the members have provided for themselves a method of contributing to their personal welfare and betterment and are in an exceptionally thriving condition. Each of them has bettered his own means of best promoting his own individual interests.

"During the past year your executive has been called upon



Some of the Delegates at the Canadian Convention Filing Out of the offices of the Dominion Sewer Pipe Co., Ltd., to Inspect the Plant.

TORONTO SPIRIT SESSIONS



*Eighteenth Annual Convention of Canadian
in Toronto—Mixed Program of Instructive
Plant Inspection Held Attention of All
All Too Quickly—The Intense Interest Mani-
That This Was the Feature of the Meeting*



to deal with many questions. The coal situation again threatened and had to be watched carefully so that our interests would be protected. Railway tariffs are preventing the shipment of certain clay products to border cities and members of this association were appointed to deal with this, on a committee under the chairmanship of Millard F. Gibson, who is a member of the C. M. A. Tariff Committee. It is hoped that the freight tariff will be adjusted to give brick a better classification.

"The removal of W. W. Pearse, city architect of Toronto, to a wider sphere of labor with the Toronto School Board, has interfered with questions which we were discussing with



W. Bray, Paxton & Bray, St. Catharines, Ont.; Robert Bennett, Dunnville, Ont.; and Wm. Burgess, Don Valley Brick Works, Todmorden, Ont.



WILLIAM BURGESS.

him regarding improvement in building by-laws affecting clay products. As soon as the city council decides on a successor, these questions will be taken up with the new city architect. The affect of the improved by-laws will, if adopted, be felt where brick is used.

"Workmen's compensation is before the executive committee and it is hoped that an improvement in the method of making refunds, at least, will be corrected when our requests are laid before the commission.

"The Technical Education Committee has been very active, and before very long you will see the results of its work. Special mention is to be made of the interest shown by Mr. Gibson and Mr. New in this work and of our father of ceramic education, Mr. W. McCredie. We hope he will soon see his desire accomplished. While we must withhold the plans for the present you may trust the Technical Education Committee to give you a full report of its stewardship at no distant date.

"Our good friend Mr. Keele continues to give us great assistance. I visited him at Ottawa a few weeks ago and found him busy carrying out tests, the results of which will be of great value to the industry. I would suggest that our members take a day off and visit Mr. Keele in his office and you will be surprised at the extent and thoroughness of his work.

"During the year we undertook to test clay from Labrador from which Dr. Grenfell hoped to make brick for his mission hospitals. These tests were carried on under Mr. Keele and will probably be continued during the coming year.

"During 1919 many of our boys have returned home from Flanders' Fields and are now back again in civil life taking their places in our works as well as they did before they went overseas. Ninety-five went overseas from the Don Valley Brick Works and they all returned except sixteen who were left on Flanders' Fields. The returned ones are making good again. I understand that other clay product manufacturers can make similar good reports.

HAD GOOD YEAR IN NINETEEN-NINETEEN

"The past year 1919 was an excellent one in many respects for clay products industries and an even better year is prophesied for this year. The past year has been an unusual one in many respects.

"Our country is now undergoing great changes in many respects, and all industries must be fully alive to these new conditions, so it behooves us clay workers more than ever before to keep in touch with all new methods both in saving of labor and fuel. It will require the efforts of every clay-worker to protect his own interests, and thereby keep abreast of the times. We as burned clay manufacturers cannot afford to pass these changes unnoticed. I think brick manufacturers have been somewhat slow in taking advantage of working together. However, I am glad to report that I can see some improvement in our getting together. There is a better social feeling created by their gathering together and becoming loyal to our association.

"As never before, is the present time one of cooperation. By meeting oftener we are enabled to discuss problems of every nature and decide how best to overcome our troubles and difficulties of every kind.

"My personal experience in attending conventions both here and in the United States of America has proved very profitable to myself and company. Mingling with brother brick-makers and hearing papers and discussions by brother clay-workers with experiences in various lines gives us many new and profitable ideas. There is the social side which appeals to us all, as well as to our wives; they look forward to those gatherings with great expectations and we all return home full of enthusiasm, which is a great help to all who bring their wives to our convention.

"I do most earnestly urge all brickmakers to become members of our association and give it a wide-a-woke and loyal support making it a rule to attend all conventions and pay the dues promptly. Then and only then, can clay workers get best results as are enjoyed by other crafts.

"So, at this time, let us feel we are in our annual gathering as a family reunion. I, as your president, desire at this time to insist upon the membership attending the sessions of this convention on time, because there has been prepared by our executives a most excellent program for your information and advisement. I trust you will not fail to refer

to your program and be prompt during the remaining sessions and ready to take part in the discussions and secure all the good you can from the social and business sessions.

"Our program is greatly strengthened by the presence of many from south of the border. We greatly regret that the vaccination regulations of the United States and of the Province of Quebec prevented a great many from attending. We have their good wishes and regret the circumstances that kept them away. We welcome heartily those who braved the regulations and are by their presence and active assistance setting us an example of how to carry on successively.

"I must express my thanks for the honor you have bestowed upon me at the Montreal convention in selecting me as your presiding officer. It is indeed an honor for the superintendent of any clay manufacturing plant to be selected to preside over such a body of men as comprise our membership and while the duties are not arduous, it is necessary at all times to have a head to all organizations and I must sincerely thank you for the compliment that you paid me last May in Montreal in electing me to this very honorable position."

ELECTION OF OFFICERS ANNOUNCED

This splendid address was followed by the reports of various committees and the reading of the minutes of last year's meeting in Montreal. The election of officers which took place at this session resulted in the reappointment of last year's executives by a unanimous vote. The members of the executive staff are: Thomas Kennedy, Swansea, past president; William Burgess, Todmorden, president; Ryland H. New, Hamilton, first vice-president; Millard G. Gibson, Toronto, second vice-president; T. H. Graham, Inglewood, third vice-president; Gordon C. Keith, Toronto, secretary-treasurer; and the following councillors: H. H. Hallatt, Tilbury; W. H. Freeborn, Brantford; N. T. Gagnon, Montreal; Andrew Milton; F. B. McFarran, Toronto; Chas. A. Millar, Toronto; C. B. Lewis, Toronto.

The first paper on the program was also given at this session and was entitled, "Burning Common Brick in Producer Gas Fired Kilns," by Geo. Cutbush, of the Don Valley Brick Works, Todmorden. This paper was full of interesting matter and started up considerable discussion which had to be cut short because of the lack of sufficient time to complete it.



Panoramic View of Entire Delegation Which Attended the Mammoth and Splendid Meeting at the Eighteenth Annual

The afternoon meeting began with a paper read by Wm. Printz, of the Brown Instrument Co., Philadelphia, Pa., entitled, "Pyrometers for Clay Products Factories." Amazing stories were told of the different manner in which burners at various plants accepted this instrument when first installed. Some seemed to be very antagonistic toward it at first while others welcomed it very heartily. Nearly all were agreed, however, on the great advantage of the installation after it had been in operation for a short period. The most interesting incident told in this connection was that given by Millard F. Gibson, whose interesting account of how the installation of a pyrometer on a plant at which he was burner at one time, caused the night firemen to quit their jobs because they could not sleep any more and "get away" with it. One of these firemen, whose name was Simmons, later went into the manufacture of beds because of his closer interest in this field of endeavor and hence probably led to the development of the well known Simmons beds. Whether Mr. Gibson's version is exactly true or not, the main point brought out is that the pyrometer cures night sleeping on the plant.

The third paper on the program was that prepared by Wm. Robertson, of the Ontario Provincial Clay Products Plant at Mimico. This paper was entitled, "Manufacture of Floor, Tile, Roofing Tile, Sanitary Cove, etc." The shale used at this plant is of unusually good grade and after being ground in dry pans is placed in ball mills for finer grinding to one hundred mesh.

PAPER ON HOW TO DISPOSE OF STONES

"Stones in Brick Clay," by Joseph Keele, B.Sc., chief engineer of the ceramic division, mines branch, Ottawa, was of special interest to Canadians because of the great abundance of stones and pebbles in Canadian clays which have been of untold nuisance to clay manufacturers. Some of the methods in use for disposing of these stones were discussed fully in this paper.

Millard F. Gibson, manager of the National Fire Proofing Co., Toronto, who has had a broad experience in the field of ceramics, gave a wonderfully inspiring talk on pottery developments in Canada. He mentioned the great mineral resources of Canada as regards ceramic raw materials and urged manufacturers to aid in the development of them. He men-

tioned the discovery of a new bed of white clay near James Bay, which, with the large deposits of feldspar and other minerals, will make it possible for Ontario to go in for the manufacture of fine ceramics, china, optical glass, and so forth, and he felt that every encouragement should be given to the development of the ceramic industry on the widest possible scale.

The above talk ended the afternoon's program and in the evening the entire delegation, including ladies, attended a most enjoyable theater party at Shea's theater, as guests of the entertainment committee.

Wednesday morning was the scene of another intensive session which was mainly confined to the reading of papers, the first of which was entitled, "Clay Tile for Farm Drainage Purposes," by F. L. Ferguson, of Ontario Agricultural College at Guelph.

DRAIN TILE GOOD AFTER LONG SERVICE

An instance was cited in this paper of clay drain tile having been dug up after eighty-five years of service and still found to be as good as the day it was first laid. The paper also told of intentions to develop standard methods of testing tile, and members of the association were invited to send in suggestions on methods of testing.

"Modern Methods in Soft Mud Brick Manufacture," was the title of a paper read by Wm. Burgess. This paper proved to be one of the most interesting papers of the meeting. It brought out a great deal of comment, much of which was centered upon the clamp kiln. Several of those present expressed their belief that the day of the clamp kiln has passed and that manufacturers will find it necessary for economical operation, to install permanent periodic or continuous kilns. This discussion was carried on into the following paper read by D. C. Merkley, which dealt with the installation of the Minter system at his plant. Seven new round down-draft kilns and flues to connect them, according to the Minter system of continuous burning with ordinary round down-draft kilns, have just been completed at the Merkley plant and have had a short period of trial. The great saving in coal required to burn ware under this system astonished all those present. Whereas in the ordinary periodic kiln, one thousand to fifteen hundred pounds of coal are required to burn one thousand brick, the Minter system required only five hundred and



Convention of the Canadian National Clay Products Association, In Toronto, Taken In Front of the Prince George Hotel.

twenty pounds of coal per thousand brick burned besides furnishing waste heat for drying purposes and speeding up the burning period considerably. This record was made on new kilns and flues which were still damp and under poor weather conditions.



Portion of Office of Dominion Sewer Pipe Co., Ltd., and part of Autos Which Carried the Delegation to Various Points of Interest.

These facts were a revelation to all present and were the cause for considerable discussion on various phases of the system. Pictures were passed around to illustrate the installation at the Merkley plant, and many of those present decided to make a special trip to Ottawa to visit the performance of the Minter system at the Merkley's Ltd., plant.

A discussion on kiln construction costs showed a great variance of opinion as to costs of constructing periodic kilns. Some estimated that a thirty-foot round down-draft kiln could be constructed at a cost of \$2,500. Others on the other hand maintained that a substantial round down-draft kiln could not be built under present day costs for less than \$5,000. One of the manufacturers present gave an account of a rectangular kiln which he had just completed the construction of at his plant at a cost of \$18,200. The capacity of this kiln is 240,000 brick.

ENJOY TREAT OF "EATS" ON INSPECTION TRIP

On Wednesday afternoon the delegation was taken in autos provided for them on an interesting inspection trip to several plants west of Toronto. The first stop was made at the Dominion Sewer Pipe Co., Ltd., plant at Swansea, where an inspection was made of this large establishment. Upon returning to the offices of the company, some delicious hot coffee and tasty "eats" were served, prepared by the Misses Kennedy, daughters of Thomas Kennedy, president of the Dominion Sewer Pipe Co. This thoughtfulness on the part of Mr. Kennedy was a pleasant surprise and was of material

help in warming up the delegation preparatory to making the next jaunt in automobiles to the plant of the Goodyear Tire & Rubber Co., where a complete inspection of this entire factory was made.

The guests witnessed the manufacture of auto tires and tubing, following the process from beginning to end. A trip to the Provincial Government clay plant at Mimico, where prison labor is employed to manufacture roofing tile, floor tile, and so forth, followed the inspection of the Goodyear plant. The feature of the Government plant was the fact that they experienced "no labor shortage."

The annual banquet was held in the large dining hall of the Prince George Hotel at 8 o'clock Wednesday evening. Fully one hundred persons, including a large number of ladies, were in attendance. In the absence of J. F. M. Stewart, of the Port Credit Brick Co., who was scheduled to act as toastmaster, J. S. McCannell substituted in a very able manner. Brigadier General C. H. Mitchell, C.B., C.M.G., D.S.O., and Hon. H. C. Nixon, provincial secretary, were the principal speakers of the evening and brief addresses were also heard from Mayor T. L. Church, Alderman W. H. Freeborn, of Brantford, Millard F. Gibson and J. C. Reilly.

URGES GREATER COOPERATION

Millard F. Gibson, the first speaker, in proposing the toast to "Affiliated Industries," felt that it would be a great source of gratification to the clay products industry if they could assist in some small way in the great work before the allied industries. J. C. Reilly, secretary of the Association of Canadian Building Construction Industries, who replied, urged more unity among the different divisions of the construction industry and felt that in order for a return to stabilization there was a great need of cooperation and brotherhood among those interested in the clay products and allied industries.

In proposing a toast to the Dominion, Hon. H. C. Nixon explained that he had intended sending his regrets, but thru a mistake made by his stenographer found himself committed to being present at the banquet. He therefore had asked and received permission to wander somewhat afield in his address and proceeded to speak of the Ontario Provincial Brick and Tile plant which he stated he had found to his surprise was under his direction when he had taken over the Provincial secretaryship.

Brigadier General Mitchell responding to the toast, pointed out that the business of the clayworker was not only the most ancient but the most profitable, as it pervaded all kinds of industries from that of the ancient bookmaker to the building of homes, and the equipment used for household needs.

A welcome to their city was extended to the members present by Mayor Church, who assured the convention of the importance of their products in the vital matter of housing the populations of the great cities.

Alderman Freeborn, who followed, urged the installation of a school of ceramics in Ontario so that it would not be necessary to study this work in the States.

The banquet had a considerable number of songs interspersed between the speeches. A famous local quartet composed of Messrs. Moore, McGreager, Leslie and David, furnished beautiful songs as did Miss Myrtle Brown. Following the banquet the chairs and tables were pushed aside and the guests enjoyed themselves at dancing.

S. R. Walsh, of the Goodyear Tire & Rubber Co., Toronto, started the morning's sessions on Thursday with an exceedingly interesting talk on power transmission and material conveying. As a result of listening to this talk, one manufacturer stated that he was able to save considerable money

in the choice of elevator equipment upon which advice was given by Mr. Walsh.

Conrad Dressler, inventor of the kiln bearing his name, described the operation of this apparatus with the aid of pictures and brought forward considerable discussion as to the operation and saving in cost made thru the installation of this marvelous kiln.

The closing session of the convention, which took place on Thursday afternoon, started with an address by J. P. Anglin, of the Building and Construction Industries of Montreal, and C. T. Currelly, whose interesting account of the development of clay ware was enjoyed by all present at the session. The final topic of the convention was the question box conducted by Millard F. Gibson. Manufacturers who had questions on plant problems which they desired information on, dropped these questions into the box and they were then discussed by Mr. Gibson. The convention closed with the passing of a set of resolutions, thanking the committees in charge and the speakers for their work, as well as Gordon C. Keith, the energetic secretary to whom belongs a great deal of the credit for his untiring efforts in making the meeting a success.

CONVENTION ROSTER

Among those in attendance were: J. H. Bickle, Toronto Sewer Pipe Co., Ltd., Toronto; Robert Bennet, Robert Bennet Brick & Tile Works, Dunneville, Ont.; O. Baird, H. W. Baird & Son, Park Hill, Ont.; John Berg, Berg Machinery Co., Toronto; Walter Bray, Paxton & Bray, St. Catharines, Ont.; Wm. Burgess, Don Valley Brick Works, Todmorden, Ont.; Richard Bretwell, Humber Bay, Ont.; H. Brisk, Buff Brick Co., Ltd., Hamilton; A. G. Burrows, Bureau of Mines, Toronto; C. Chapman, Chapman Brick Co., Toronto; F. Coleman, Hamilton & Toronto Sewer Pipe Co., Hamilton, Ont.; Frank Crawford, Crawford Bros., Hamilton; C. W. Clewell, Elk Fire Brick Co., Hamilton, Ont.; George Cutbush, Don Valley Brick Works, Todmorden; Conrad Dressler, American Dressler Tunnel Kilns, Inc., New York City, N. Y.; Andrew Dods, Ontario Sewer Pipe & Clay Products, Ltd., Mimico, Ont.; Frank A. Elliott, International Clay Machinery Co., Dayton, Ohio; A. R. Frost, Sun Brick Co., Ltd., Toronto; W. H. Freeborn, Brantford, Ont.; F. L. Ferguson, Guelph, Ont.; B. Brason, Shale Brick Co., of

Ont.; H. H. Hallatt, Tilbury Brick & Tile Co., Tilbury, Ont.; M. B. Hugill, Port Credit Brick Co., Ltd., Toronto; P. F. Hopkins, Ontario Bureau of Mines, Toronto; H. E. Hunt, Toronto; Chas. Harrison, Dominion Sewer Pipe Co., Mimico Beach, Ont.; J. A. Jameson, Jameson Lime Co., Renfrew, Ont.; Norman G. Johnston, Toronto Pottery Co., Ltd., Toronto; J. Keele, Mines Branch, Ottawa; Gordon C. Keith, Toronto; C. W. Knight, Bureau of Mines, Toronto; Thomas Kennedy, Dominion Sewer Pipe Co., Swansea, Ont.; C. B. Lewis, Toronto; E. Fred Longwell, Sheetsville Brick Co., Ltd., Sheetsville, Ont.; Wm. Marshall, Attercliffe Brick & Tile Co., Dunneville, Ont.; C. H. Mitchell, Toronto; Chas. A. Miller, Toronto; D. C. Merkley, Merkleys, Ltd., Ottawa; J. S. McCannell, Milton Pressed Brick Co., Toronto; Hon. H. C. Nixon, Provincial Secretary, Toronto; G. L. Memory, Elk Fire Brick Co. of Canada, Ltd., Hamilton; L. J. McGregor, Buff Brick Co., Hamilton, Ont.; F. B. McFarren, Interprovincial Brick Co. of Canada, Ltd., Toronto; Mr. Moore, Ontario Lime Co., Toronto; M. M. Minter, Flint River Brick Co., Albany, Ga.; F. R. McCannell, Milton Pressed Brick Co., Milton, Ont.; J. H. Morrison, J. H. Morrison Fire Brick Co., Toronto, Ont.; G. H. Mowers, Federal Eng. Co., Ltd., Toronto; A. McArthur, Shale Brick Co. of Canada, Ltd., Cortsville, Ont.; Ryland H. New, Hamilton & Toronto Sewer Pipe Co., Ltd., Hamilton; Robert McDowell, Bragdon, Ont.; Frank McClellan, Arnold-Creagor Co., New London, Ohio; Geo. Piggott, Piggott & Co., Mount Dennis; Fred S. Price, Price & Smith, Toronto; John R. Price, Price & Cumming, Humber Bay; W. J. Packham, Brampton Pressed Brick Co., Ltd., Brampton, Ont.; Wm. Printz, Brown Instrument Co., Philadelphia; Wm. Robertson, Mimico; J. Clark Reilly, Association Canadian Building Construction Industries, Montreal; L. Z. Shaw, Avonport, N. S.; R. K. Robertson, Shale Brick Co., Ltd., Crooksville, Ont.; W. J. Rogers, Bureau of Mines, Toronto; J. P. Russell, "Contract Record," Toronto; Geo. H. Scott, Shale Products, Ltd., Inglewood; Robert W. Steere, American Dressler Tunnel Kilns, Inc., New York; J. M. Scott, Shale Products, Ltd., Inglewood; F. L. Steinhoff, *Brick and Clay Record*, Chicago; Chas. H. Wallace, Clay Products Co. of Canada, Ltd., Toronto; F. K. Wallis, Dominion Sewer Pipe Co., Toronto; J. R. Walsh, S. R. Walsh, Goodyear Tire & Rubber Co., Toronto; W. A. Warwood, Dominion Sewer Pipe Co., Toronto; A. M. Wickens, Toronto; Darius Wigle, Champion Brick & Tile Co., Kingsville, Ont.; J. F. Wilson, Park Hill, Ont.; W. H. Wood, Brockville, Canada.

* * *

France, the Thriftiest of Nations

The deposits in French savings banks during the first nine months of 1919 reached a record never attained before the war in an equivalent period and yet the savings banks of France represent a very small fraction of the investments of the people. France is the thriftiest of nations and their large savings in 1919 are significant because the French, the people themselves, have accomplished wonders in the rebuilding of their devastated regions. That the United States is in comparison quite lacking in thrift is evidenced by many facts, one being that 41 per cent. of the depositors in our Postal Savings System are American born and they own only 28 per cent. of the money on deposit. The rest is in the hands of foreigners.

* * *

Need of a Forest Policy

"The need of Government intervention of some kind to conserve the waning timber supply stands out as extremely



One of the Kilns Under Construction at the Merkleys, Ltd., Plant, Where the Minter System Has Been Installed and Operated at an Immense Saving.

Canada, Ltd., Toronto; T. H. Graham, Shale Products, Ltd., Toronto; M. F. Gibson, National Fire Proofing Co., Toronto; C. P. Hoyt, Port Credit Brick Co., Ltd., Port Credit,

important," says the third annual report of the United States Tariff Commission, which has just been issued. It continues: "This is a policy the urgency of which the lumber interests themselves are beginning openly to acknowledge. They appreciate the necessity for conservation not only in the interest of consumers, agriculture, inland navigation, and water power, but also because the problem is one with which private enterprise is powerless to deal without governmental intervention or cooperation."

* * *

Housing Exhibition in Norway

An exhibition under the auspices of the Norwegian Housing and Town Planning Association will be held from April 19 to May 3 in Christiania, announces the consul-general there. Materials necessary in erecting residences will be shown. American concerns are invited to take part, as well as manufacturers of other countries.

* * *

Country Faces Low Foodstuff Production

F. W. Bolgiano, former President of International Association of Seed Distributors, stated January 10 that farmers and produce growers are buying less than 50 per cent. of seed for spring planting than they bought in previous years. The whole country faces the lowest production year on perishable foodstuffs since the outbreak of war in 1914.

* * *

Increase of 70% in Cost of R. R. Operation

The president of the Baltimore and Ohio Railroad, in a speech before the Baltimore Chamber of Commerce, said that unless railroads were granted means of getting increased revenues in proportion to increased cost of operation when returned to private control, they would revert again to Government control. Increase in cost of operation, he said, was about 70 per cent. since 1916.

* * *

Build 173 Cars in Month

During November, 1919, according to an official announcement of the railroad administration, only 173 new cars, all of the freight type, were constructed in railroad shops, 151 were box cars, 77 being of wood and 74 having steel center sills. In the week ended December 27, only 18 locomotives were shipped, 13 being built by the American Locomotive Works, two by the Lima Locomotive Corporation, and three by the Baldwin Locomotive Works.

* * *

A Good Argument for Flue Lining

The charred remains of one year's fires in the United States would line both sides of a highway 1,000 miles long, and yet 80 per cent. of this is preventable, says a recent issue of the Bulletin of the State Fire Marshall of Minnesota.

A summary of the fire causes in various states shows that fires attributable to chimneys amount annually to from 10 to 26 per cent. of the total number and in winter, the percentage has reached as high as 50. Especially in rural districts where there are no organized fire-fighting agencies, builders should give unusual attention to the construction of chimneys that they may be made as nearly fire-proof as possible.

Chimneys should not be built on brackets; they should extend a sufficient distance above the roof; their walls

should be at least eight inches thick, flues should not be less than 64 square inches, the flue holes should never be filled with inflammable material and good flue linings of fire clay should be provided. The cost of such lining in an ordinary two-story residence would be nominal.

With the present tremendous demand for new buildings and the consequent speeding up of work, especial care should be taken to prevent carelessness in chimney construction.

Along the same lines the National Fire Protective Association is pushing a vigorous campaign, emphasizing the present need of dwellings and the extreme necessity of protecting from the fire the homes we already have. It advocates care about matches, smoking, lighting and heating apparatus and gasoline, and urges a clearing out of rubbish, inspection of flues and cleaning of chimneys that sparks may not fall on combustible roofs.

* * *

Urges Compulsory Consolidation of R. R. into a Few Great Corporations

Director General Hines, in an address before the Bar Association of New York City, urged compulsory consolidation of the railroads into a few great corporations, before they return to private control, with the public and labor, as well as capital, represented in the management of the systems. Without this fundamental reconstruction, Mr. Hines declared the "result will be progressively disappointing and in a few years the dissatisfaction of the public will manifest itself thru an insistent demand for a radically different plan which is not likely then to stop short of outright Government ownership."

* * *

To Obtain Relief from H. C. L.

The Washington "Post" January 8 says: "Failing to obtain satisfactory relief from high cost of living either thru further wage advances by Railroad Administration or from anti-profiteering campaign of Department of Justice, officials of four big railway brotherhoods and the railroad shop crafts affiliated with the American Federation of Labor have decided to seek solution for themselves thru cooperative buying, production and distribution. The step was construed in some quarters as indicating that demands for further wage increases would not be pressed pending outcome of the experiment."

* * *

The New York "Times" January 11 announces that the largest gain in unfilled tonnage ever recorded in history of the U. S. Steel Corporation was announced for December. It stated that the increase amounted to 1,137,036 tons, and brought future bookings of the Corporation up to 8,265,366 tons at close of year.

* * *

The New York "Times" of January 4 announces that prominent men from nearly all States in Union met in New York City, and formally linked their States in a new national organization to be known as United Americans. Object is the preservation of the Constitution of the United States against Bolshevism.

* * *

Comptroller of the Currency stated on January 19 that in six years the assets of National banks are more than double. Cash in vaults and balances with Federal Reserve banks exceed all previous records. Liberty bonds and Victory notes are being steadily absorbed by permanent investors. National banks of the United States held on November 17, 1919, resources of \$22,444,992,000. This was an increase since September 12, 1919, of \$829,576,000.

“AMERICA FIRST”

Says SENATOR HARDING at POTTERS' ANNUAL CONVENTION

Ohio's "Favorite Son" is for Lending Aid to Foreign Nations, But Would Safeguard America's Interests and Stabilize Her Industries So That All May Prosper—Pottery Business is One of the Primary Lines of Industry of the Nation and Should Be Accorded Such Governmental Protection as Might Be Necessary for Its Welfare

A FINE ATTENDANCE, a keenness for real business, valuable interchange of thought, and a commendable spirit of good fellowship marked the forty-first annual meeting of the United States Potters' Association, at Hotel Astor, New York, January 6 and 7, and to which brief reference has been made in recent issues of *Brick and Clay Record*. The inclination for fun and a good time was there also, bringing about that happy mixture of business and pleasure that makes such a gathering well worth while.

The different business sessions were full of inspiration and enthusiasm, and with the passing of "lean" years to the present high water-mark of prosperity in the industry, there was little to offer in the way of complaint. On the contrary, the pulse of the gathering showed a viewpoint to the future—to the maintenance of present favorable conditions and improvements in certain phases of production. About 100 representative members in different branches of the trade from all parts of the country were present.

POTTERY SITUATION IN THE ORIENT

Important matters affecting the pottery industry in its various ramifications were discussed in closed sessions on both days. Opening on Tuesday, a feature of the first meeting was the presentation of a paper by William H. Burgess, Trenton, N. J., first vice-president of the organiza-

tion, on the pottery situation in the Orient, indicating the progress being made in the production of wares in this part of the world, and one of the points to which the American manufacturer must look for early competition. The address was illustrated with lantern slides, giving an intimate picture of just what is going on. It was one of the most valuable and interesting contributions to the gathering.

Following an executive session early Wednesday morning, a pertinent and illuminating address was given by Mr. Smith, connected with the freight department of the Railroad Administration. This talk covered the packing and shipment of pottery and kindred products, showing the necessity for proper containers for the safe transportation and delivery of breakable wares of this character.

The speaker gave a number of illustrations of faulty packing, using box lumber of thickness far short of requirements, employing too few nails of right size, and so on. He quoted from rulings of the Interstate Commerce Commission, as well as decisions of the United States Supreme Court, regarding shipment and handling of freight of this nature, and pointed out that the carrier was often blamed where the cause of breakage and other troubles lays with the shipper. He made reference to the testing station maintained at Milwaukee, Wis., to determine the proper



Over Eighty Potters Gathered in Private Banquet Room of Astor Hotel, New York City, to Enjoy Real Dinner and Good Time That Followed It.

sizes of material to carry freight of different character, covering crushing strength, breaking points and the like. It was shown that the number of nails put in a case and the size nails are of great importance, and figures of comparison were given indicating the difference in strength under test of 3, 4 and 5 nails within certain space in a case.

The excessive amount of claims now being paid was also brought out, showing that the railroad lines are sometimes held to defray breakage on first class wares, where, in reality, second grade material has been shipped. It was pointed out, in conclusion, that cooperation between the shipper and carrier would work to decided advantage of all concerned. The railroads, it was admitted frankly, are not free from blame, and neither, in the speaker's opinion, were various manufacturers of pottery. There is one right way, and this will be developed, it is hoped, by closer working together of potter and railroad.

SCIENTIFIC METHODS IN BUSINESS

Professor A. V. Bleininger, Bureau of Standards, Pittsburgh, Pa., gave an interesting talk on the "Application of Scientific Methods to the Pottery Industry." He said that scientific knowledge was, in his opinion, organized knowledge, and must be mixed in right proportions for greatest benefit. He pointed out that a technical education was valuable only as put to practical use, or as might be applied directly to work in shop and field.

He spoke of the fallacies prevalent among the strictly technical man and the strictly practical man, each going his own individual way and never combining forces for material good. The value of specialized knowledge from raw material to finished product was pointed out, showing how an intimacy with known conditions as developed thru laboratory and research work often will be the means of saving thousands of dollars, as well as conserving time and energy. This reference covered such matters as selection and mixing of clays, kiln work, including firing and burning, glazes, decoration, etc., all going to make for a defined uniformity in production.

Professor Bleininger mentioned, also, the need for proper education of employes, setting forth that a little technical knowledge combined with their practical knowledge will make for an ideal condition, both from the viewpoints of the employer and the worker. As employes learn more, they will earn more, and this is the satisfying element to them; the employer, on the other hand, can look for and expect increased efficiency in service.

The speaker recommended laboratory work for the handling of various problems. Such a department can well be maintained with profit in the larger ceramic plant and pottery, he said, while smaller concerns, which could not well afford to operate such a branch individually, might readily combine forces for the maintenance of a central bureau of this character in their immediate vicinity, under the direction of an able ceramic engineer and chemist.

In conclusion, he pointed out the need for a manual or handbook for potters, saying that the time had come when such a book would prove of immeasurable value. This manual would combine the technical and the practical, serving as a ready means of reference for the handling of ordinary problems connected with production of chinaware, earthenware and affiliated products.

"AMERICA FIRST"

A gala moment of interruption in the business of the morning session occurred when United States Senator Warren G. Harding, of Ohio, entered the room to say a few words to those assembled. In introducing the senator, President Sebring of the association mentioned that this favorite

and distinguished son of Ohio was prominent among those now mentioned for the Republican nomination for the Presidency, and as the country, in time gone by, had to come to Ohio for William McKinley, it was again knocking at the door of the state for another able leader for the nation.

Great applause greeted Senator Harding as he rose to speak. His remarks were brief, but very pointed and impressive. He expressed the view that while he is for lending aid to foreign nations, he is for America first at every turn—to safeguard her interests, to stabilize her industries so that all may prosper. He said that he had come to think that it is fundamentally and patriotically American to hold that there isn't room in this country for any one who preaches the destruction of the Government as laid down in the Constitution.

In touching on the Peace Treaty and the League of Nations, he said that formal peace would help to bring normal conditions, and he, for one, would gladly speed the day if we sacrifice nothing vital to America. As a matter of fact, he pointed out, actual peace prevails and commerce has been resumed. Normal thinking will go to help more, and normal living will have a still greater effect.

Concluding, Senator Harding made reference to the importance of the ceramic industries and the great influence of the pottery trade in Ohio. The business, he said, was one of the primary lines of industry of the nation and should be accorded such governmental protection as might be necessary for its welfare.

POTTERY DESIGN

During the morning business session, an interesting report was made by the Art and Design Committee of the association. It was pointed out that fifty-three letters had been mailed to representative concerns on this subject, and that fifty-two replies from these were received. A summary of the information given showed that the tendency of the trade was to adhere to plain shapes and to get back to early designs. It was also set forth, that a wide variety of patterns had given way to greater specialization, and that different prominent producers were now devoting their efforts to a few staple lines. Reference was also made to pieces that had been secured for museum purposes.

A motion, made at the request of an associate member of the organization, to increase the dues of associate members from \$25 to \$50 a year, brought about some little discussion, and was finally voted down.

It was announced that the Philadelphia Drying Machinery Co., Philadelphia, has been elected an associate member during the past year.

Among other important actions of the convention, a resolution was voted requesting that Professor Bleininger be retained at the Pittsburgh Laboratory of the Bureau of Standards, rather than take up his work at Washington, as has been tentatively planned.

ELECTION OF OFFICERS

At the annual election of officers, just before the close of the final business session on Thursday, William L. Smith, Jr., of the Taylor, Smith & Taylor Pottery Co., Chester, W. Va., was unanimously elected president, succeeding Charles L. Sebring, of the Sebring (Ohio) Pottery Co., as announced in the January 13 issue of *Brick and Clay Record*. Three vice-presidents were elected as follows: William Burgess, Trenton, N. J. (re-elected); B. E. Salisbury, Syracuse, N. Y. (re-elected); and Homer Taylor, East Liverpool, Ohio, to succeed William L. Smith, Jr.; Charles P. Goodwin was re-elected secretary-treasurer.

The convention closed with the annual banquet. This was given in a private banquet room on the main floor of

the Astor Hotel, and proved a *real* dinner in every sense of the word. Over eighty members and guests were present and all were in for a good time—incidentally they had it.

Following the banquet a number of interesting and livening addresses were made by President-elect Smith, W. E.

Wells and others. It was well on to midnight when the event terminated.

The 1920 convention of the United States Potters' Association will long be remembered—that's the concerted opinion of those who were present, and it's mighty well justified.



WAREHOUSES OVERLOADED—NO CARS AVAILABLE *to* SHIP *to* MARKET *in* EAST

APPARENT FEDERAL INDIFFERENCE to the nation's increasing need for more building space is held responsible for the constantly increasing price of building materials in this and other markets and the constantly advancing cost of building construction, says the Dow Service Daily Building Reports of January 19.

The situation has reached a point where building material manufacturing establishments have already closed down because they cannot get cars to ship material from overloaded warehouses. Others have withdrawn their salesmen. They have all the labor they want. They have more business in prospect than the mills can take care of for almost half a year, but still they have to shut down because the Railroad Administration has kept the building material industry at the bottom of the preferred list for car accommodation. In consequence no building material can be moved by rail until all other preferred industries have had car service and there are cars to spare for the building trades.

This apparent prejudice against building materials and building construction is not only holding back construction work all over the country, but it is causing a stampede for the small quantity of building material available in distributors' hands. Stampedes occur when buyers are willing to pay premiums for prompt delivery of needed building materials from dwindling building material reserves.

CANNOT GET CARS TO SHIP TO MARKET

There is at present a temporary famine in brick, plaster board and cement. In Buffalo plaster board mills have actually closed with warehouses full and all the labor needed to operate a tremendous mill capacity, all because they cannot get cars to ship this material to this market. In the meantime this market is practically barren of plaster board, except what can be furnished by certain small hand-made plaster board shops in this city. Incidentally the price advanced two cents a board last week.

The cement industry offers another illustration. There is a shortage of cement, but it is only a temporary one due to coal shortage and car curtailment. The mills in Zones 1 and 2, the Hudson and Lehigh districts, supplying this market, have capacity sufficient to supply more cement than the market can absorb. Both have reported a great improvement in the labor supply, but they cannot get sufficient cars to make shipments. In New Jersey a general contractor figuring on important building operation was announced as low bidder, but every one of his supply men have withdrawn their estimates because building material interests were unable to guarantee the sub-contractor supplies of material on schedule owing to inability to get cars. Here is the situation in the cement market supplying New York.

INSIST GOVERNMENT BAN ON BUILDING MATERIALS BE LIFTED TO STOP PRICE INCREASE

There are 329 kilns in the two districts. If they could run 24 hours a day and for 365 days, they would be able to turn out 54,398,650 barrels of cement. This is what

might be called maximum production which never has been attained. Operating 310 days, or 85 per cent. of capacity, these mills could turn out 46,193,100 barrels. The best previous output for the district was only 30,000,000 barrels, including 2,000,000 barrels for export. The Government has denied this industry coal and it has denied it cars for shipping its finished product. The cost of bags has advanced to \$300 a thousand, or more than 200 per cent., and yet the leading minds in the industry absolutely condemn any further price advance. They are not alone in their insistence that the Government ban on building and building material production be lifted. They say it offers the quickest and surest means of stopping this ruinous and constant increase in prices.

The building material dealers of New York have taken the lead in their demands for having the position of car preference on the Railroad Administration's list taken from the last to the first place. In winning the cooperation of the Merchants' Association in this matter, the dealers pointed out that the housing shortage and rent profiteering has already constituted a national menace to business prosperity.

The Associated General Contractors of America, the National Lime Manufacturers, various lumber interests, building stone, crushed stone, sand and gravel manufacturers have all taken up the fight to wring from the Government bureaus recognition of the absolute necessity of lifting the war-time restrictions on the movement of building materials by rail and thus put the administration on record as helping to solve the menacing house-famine thruout the country, instead of hindering it.

The financial institutions are the latest to join the protest against existing conditions or threatening to refuse further loans in such an unstable building material price market, yet this week's building material price list shows common brick rated at \$25 a thousand, wholesale, or approximately \$50 a thousand laid in a wall in Brooklyn or Bronx. The same list shows a further advance in hollow brick from \$20 to \$23 a thousand and further price advances threatened in many other lines depending upon railroads for supply to this market.

LABOR SITUATION GREATLY IMPROVED

The labor situation has greatly improved. Men are making the chief consideration permanency of work rather than shorter hours or higher wages at present. They say they are tired of theories and propagandists. They want work and are passing out of the former preferential war-time industries into the building material manufacturing industries because of the promise of steady work and steady pay. The difference in demand between this and former years is merely that of a stampede or an attempt by powerful building interests to corner the meager building material supply because cars are not made available to keep up the supply here. The open weather and the starting of

the 1920 building season about 60 days before the season usually opens has helped to stimulate this stampede.

Building material dealers, manufacturers, architects and contractors have a way to bring about a stabilized building material price market, say authorities in the industry and that is by backing up the efforts of the various organizations at work on the Fuel and Railroad Administration to change the preference of the building industry from last to first to check a growing national menace.

* * *

Refractories Men to Meet at White Sulphur Springs, March 17, 18 and 19

Following the example adopted by the American Face Brick Association, which almost at its inception decided that meetings held in large centers of population were subjected to too many outside influences, the Refractories Manufacturers' Association, at a meeting held in Chicago on Wednesday, January 14, decided to hold its annual meeting and election of officers at White Sulphur Springs, W. Va.

This annual meeting will last three days, beginning March 17, and it is expected that the program will be so arranged as to permit of morning and evening sessions of the association, the afternoons being left free for social intercourse.

Outside of one or two very short executive meetings, all of the sessions will be open to manufacturers of refractories, without regard to membership in the association.

It is expected that a very interesting paper will be presented by Raymond M. Howe, Senior Fellow under the endowment made by the Refractories Manufacturers' Association at the Mellon Institute of Industrial Research.

* * *

Change Dates of Wisconsin Meeting

A change in plans has been made by the Wisconsin Clay Manufacturers' Association in that they will hold their twentieth annual convention on Tuesday and Wednesday, January 27 and 28, instead of February 12 and 13 as previously announced. However, the headquarters will remain the same, the Republican House, Milwaukee, Wis., being the meeting place for this get-together, which promises to be the biggest event ever held by Badger manufacturers.

The program reveals that Tuesday morning will be given over to the registration of members and the renewing and forming of acquaintances. Tuesday afternoon, at two o'clock, John Ringle, of the Ringle Brick Co., Wausau, will give the presidential address which will be followed by other administrative reports. One of the interesting papers for discussion is that entitled, "Can the Brick Manufacturer and the Brick Layer Cooperate?" by Chas. J. Ebert, of Milwaukee, and A. W. Hilker, of Racine. A paper on the "Use of Waste Heat in Drying," will be given by Oscar Zimbal, of Sheboygan.

Ralph P. Stoddard, secretary of the Common Brick Manufacturers' Association, will talk on "The Value of Advertising." This talk should be of exceedingly great interest to Wisconsin clay manufacturers, for it will be their opportunity to learn of the immense promotional campaign that is about to be undertaken by the common brick manufacturers.

The association dinner will be held in the Republican Cafe at 6:30 p. m. Tuesday, January 27. Wednesday morning, January 28, a program starting at nine o'clock will include a host of interesting papers and discussions on manufacturing problems. The first will be on "Local Methods of Brick and Tile Manufacture," including discussions on mining and hauling clay, preparing the clay, system of drying, kind of kiln used in burning, kind and cost of fuel, labor system

and cost, grading and price of product, and the system of bookkeeping and accounting. Besides the above subjects, the following firms will take up the subject of "Brick Manufacturing": Oscar Zimball, Sheboygan; Erwin Fricke, Manitowoc; N. H. Meier, La Crosse; L. H. Cordes, Watertown; L. D. Pratt, Menomonie; Excelsior Brick Co., Menomonie; Northwestern Lumber Co., Stanley; Cook & Brown Lime Co., Oshkosh; F. C. Poels, Green Bay, and Ringle Brick Co., Wausau.

In a similar manner the following firms will discuss points in "Tile Manufacturing": Gunther Bros. Brick & Tile Co., Port Washington; Burlington Brick & Tile Co., Burlington; Falls Brick & Tile Co., Sheboygan Falls; Whitewater Brick & Tile Co., Whitewater, and Vesper (Wis.) Brick & Tile Co.

Wednesday afternoon will be given over to reports of special committees, nomination and election of officers.

* * *

W. O. C. A. Might Take Over and Operate Natural Gas Fields of Ontario

As announced in the January 13 issue of *Brick and Clay Record*, the Western Ontario Clayworkers' Association and the Ontario Drainage Association will hold a joint convention at London, Ont., on February 24, 25 and 26, in the Builders' Exchange.

An excellent program is being prepared. Thick and thin shelled tile will be discussed and tests are now being conducted at the Ontario Agricultural College at Guelph and at the Technical School at London, as well as a freezing and thawing test at the London Cold Storage plant.

The fuel situation will also be discussed as there is some possibility of the W. O. C. A. taking over all the natural gas fields in Ontario and operating them.

Tariffs and freight will be taken up for discussion, together with many questions relative to the manufacture of brick and tile. The new Farmers' Government will be represented at the convention in the person of the Minister of Agriculture.

The usual Question Box will be conducted by H. H. Hallett, of Tilbury. "Tile As We Find Them" is the subject of a paper to be read by Mr. Harris, a traction ditcher operator from Tillsonburg. These, together with many other discussions and the customary round-the-room discussions will no doubt make the 1920 convention one to be long remembered.

* * *

American Road Builders to Convene Feb. 9

The Tenth American Good Roads Congress and the Eleventh National Good Roads Show will be held under the auspices of the American Road Builders' Association at the Jefferson County Armory, Louisville, Ky., February 9 to 13, 1920. This promises to be the greatest meeting in the history of the Good Roads movement, because of the vast sums which have been and will be appropriated this year for road and street construction and maintenance, which a careful computation places at more than a billion dollars.

A very instructive as well as entertaining feature of the convention will be the exhibits of road machinery and road materials. Every kind and class of appliance and device for labor saving and producing better results will be on exhibition at the show, where officials, engineers and contractors may become familiar with its mechanism and operation.

Moving pictures illustrating the road building industry, a dinner given by the association, a formal reception and ball and other social features will provide ample entertainment for the delegates and guests.

BIG HOUSING PROJECT *to* USE “DEARBORN” BRICK

Discovery of the Possibility of Using Certain Mixtures of Chicago Commons, Heretofore Discarded as Being of No Value, for Face Brick Leads to Initial Use of Enormous Quantities in Immense Housing Project That Will Be a Great Advertisement for Common Brick

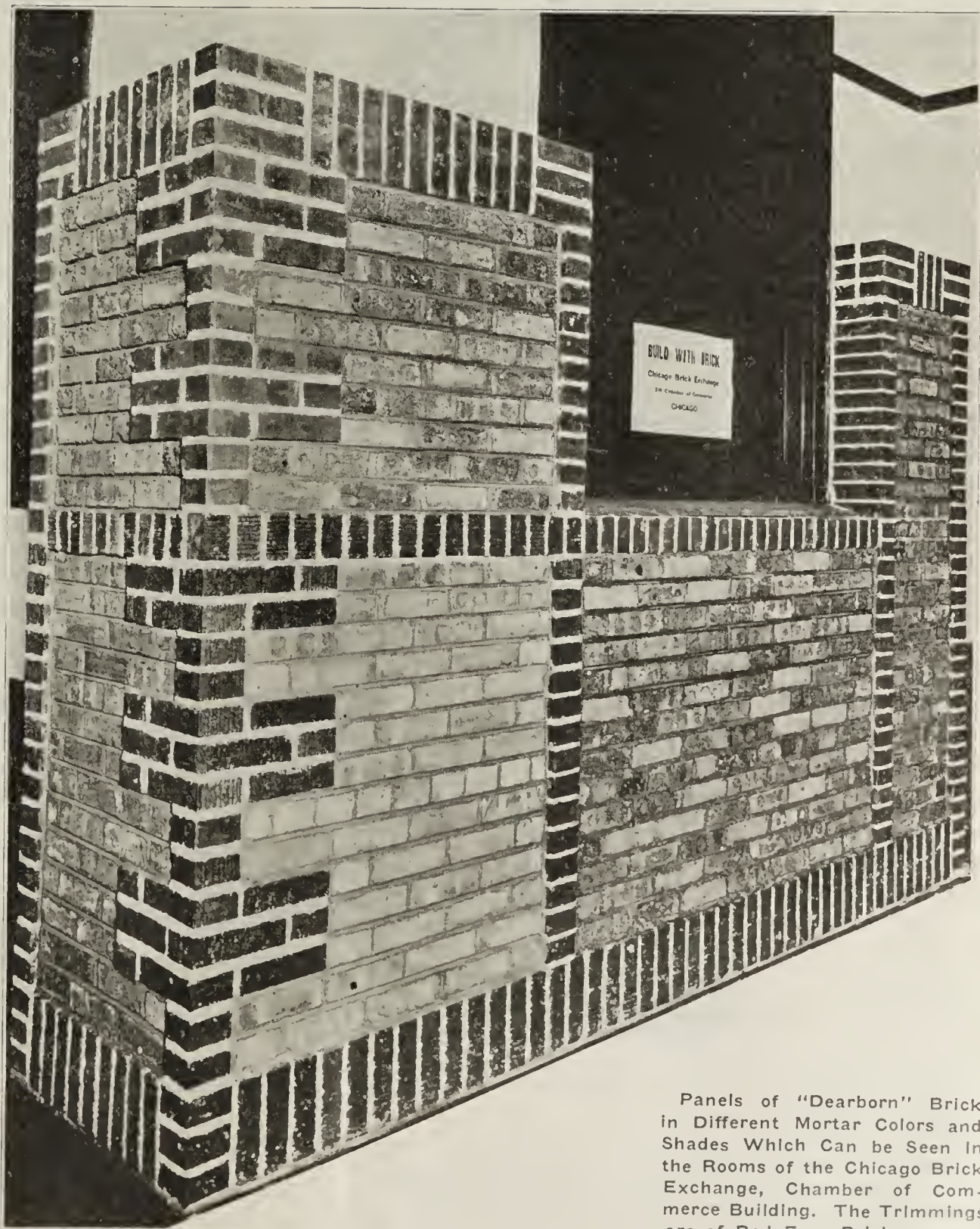
“DEARBORN” BRICK is being ushered into the building industry as a face brick without ceremony but with unusually great force and representation. But what are Dearborn brick?—you ask. You have never heard of them? Well they are not a new product. They have formed a part of the kiln’s production ever since brick has been produced, but heretofore have been discarded as undesirable product. Briefly, “Dearborn” brick are strictly a Chicago product. But who ever heard of Chicago brick—a product which has been knocked by nearly every brick manufacturer outside of Chicago, as being the poorest kind of an excuse for a building brick—being used as a face brick? Yet that is just exactly what is being done with these poor neglected—shall we call them, cinderellas of the clay industry.

WHAT “DEARBORN” BRICK ARE

“Dearborn” brick are simply Chicago common brick which have been burned a little hard, have flash marks on them, are rough and show the characteristics of the clay. These brick are now sorted into four grades, varying in texture and depth of color. The brick are not treated any differently than the regular common brick in the process of manufacture, but are simply the natural product of certain parts of the kiln.

Credit is due to William Carver, architectural director of the Common Brick Manufacturers’ Association, for having resurrected these brick from the scrap heap. It was largely thru Mr. Carver’s effort that panels such as are illustrated in the accompany-

ing cuts, were laid up to study the possibilities of Chicago commons. Different varieties and mixtures have been gathered, and the panels laid up with different mortar colors in the headquarters of the Chicago Brick Exchange, Room 219,



Panels of “Dearborn” Brick in Different Mortar Colors and Shades Which Can be Seen in the Rooms of the Chicago Brick Exchange, Chamber of Commerce Building. The Trimmings are of Red Face Brick.

Chamber of Commerce Building. It speaks well for these brick, and their initial use is being made in the immense project of The Chicago Housing Association, which includes the erection of 175 homes. The Chicago Housing Association is a million-dollar corporation financed by a group of Chicago's most public spirited men with the object to encourage small wage earners to acquire and own their own homes. The officers of the association are: Herman Hettler, president; William Grace, vice-president; Moses E. Greenebaum, treasurer; A. Volney Foster, secretary; Isaac Rothschild, general counsel; James F. Basiger, general manager.

HOUSES TO SELL FOR \$4,000

The directors of the association are: J. Ogden Armour, Judge Bernard P. Barasa, Abel Davis, Geo. W. Dixon, Door E. Felt, Chas. W. Folds, A. Volney Foster, William Grace, Herman H. Hettler, D. F. Kelly, Albert D. Laker, Minnie F. Low, Harry H. Merrick, Simon O'Donnell, Benjamin J. Rosenthal, Julius F. Smietanka, Frederic W. Upham, Harriet E. Vitum, Chas. W. Wacker, Thomas E. Wilson, Harry A. Wheeler, William Wrigley, Jr.

A forty-acre tract of land at 87th and State Streets, Chicago, has been acquired by this association, and is the site for the first project unit of 175 houses, which are being constructed to cost the owner in the neighborhood of \$4,000. Most of the ground has already been broken, a large number of basements have already

been completed, and five of the buildings are already enclosed at the time of this writing.

The subdivision will yield 35 residence lots, 200 feet deep and 140 lots 162.5 feet deep on a 30-foot width basis. The business lots which face on State and on 87th Streets are 125 feet deep and 25 feet wide, except on 33-foot corners.

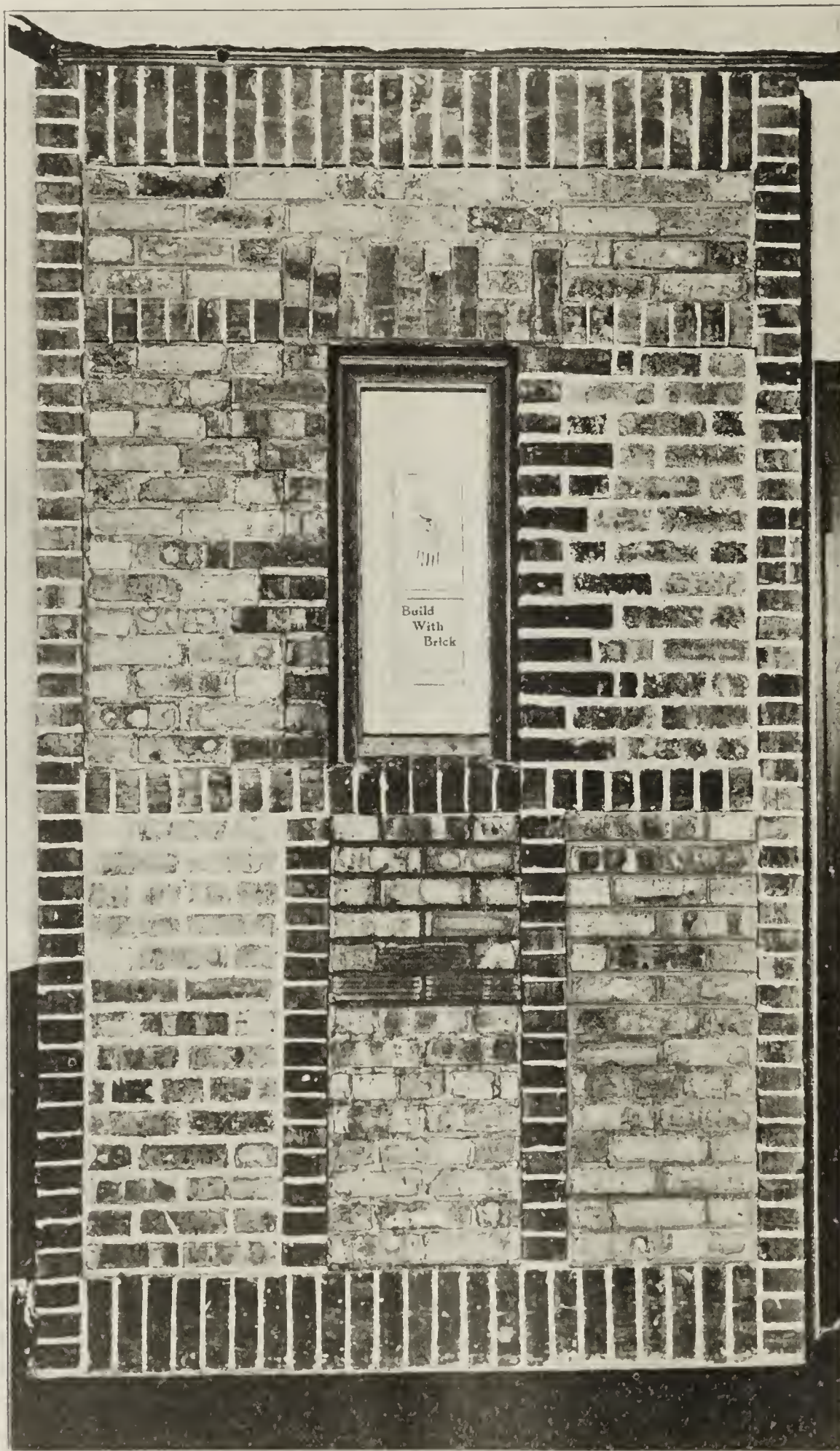
Seven distinct designs of houses have been planned, all of five-room type for the most part detached housing, altho some semi-detached houses will relieve the monotony of the single housing.

TO CARE FOR LANDSCAPING

Durable construction of modern arrangement and convenience is going to be an outstanding feature. The structures will be of fire resistive brick, thanks to the efforts of the Common Brick Manufacturers' Association, or of stucco over hollow tile. As an example of the type of house, one plan calls for concrete basement, lighted by four windows provided with laundry tubs for hot and cold water, and with pipeless type of furnace. On the first floor is a 13 by 16-foot living room and a 11 by 16 ft. combination kitchen and dining room. The rooms are lighted with double windows and the living room opens onto a balustrated

porch 11 by 18 feet. The rooms will have hardwood floors and gum trimmings finished in walnut or mahogany.

The landscaping of the project has also been carefully worked out, and as planned provides for 100-foot streets



One of the Large Panels in the Rooms of the Chicago Brick Exchange, Containing Smaller Panels of Different Designs and Arrangements Made Up From "Dearborn" Brick.

which will include a parkway 29 feet wide between the sidewalk and passage of the street. The houses are set back from the walk about 30 feet and owing to the depth of the lots much space is left for gardens. It is planned to have a caretaker remain in charge of the parking for two years to insure the hedges and trees getting a good start before being left to the individual care of the owners.

The construction of the entire project is under the direction of James F. Basiger, who came from the well-known Frederick H. Bartlett organization to assume the duties of general manager. The firm, Bright & Diamond, general contractors, are in charge of the work.

Thru the fact that the team track of the city of Chicago is available, it is possible to use material directly from carload lots. Cash is being paid for everything bought, and quite naturally with this cash purchasing power to buy in large quantities some very attractive buys are made. But in no case is poor material incorporated in the plans to cut down on costs. All bidders have to show that their materials fit into the makeup of a genuine durable home.

SALE OF BUSINESS LOTS TO PAY FOR PROJECT

The sale of the business lots is expected to pay the whole bill for the forty-acre tract. Consequently, the buyer will pay only for the house at the cost price of building. Little overhead expense is involved due to the cooperative action of the backers of the plan. For instance, general office expenses are eliminated by the generous giving of office space on the part of one of the directors.

The buyers of a home will pay ten per cent. down, and the balance in payment covering a period of fifteen years. Provisions for all contingencies have been made, including compulsory insurance of the buyer and provision for social assistance in cases of unlooked to default on the part of the purchaser.

This first project marks but a beginning of the proposed activities of the Chicago Housing Association. Ultimate plans look forward to the building of thousands of houses for the modest wage earner in different parts of Chicago.



Competition on Designs in "Dearborn" Brick

Besides the use of "Dearborn" brick as facing for the immense housing project described in the preceding article, the Chicago Brick Exchange is working on a proposition to make use of them as interior decoration such as in a fireplace. To accomplish this, the Chicago Brick Exchange is holding a competition open to all architects and architectural draftsmen, for a design in "Dearborn" brick.



Showing Several Homes Built of "Dearborn" Brick Already Nearing Completion on Site of Large Housing Project in Chicago.

The object of this competition is to produce a design which, when built, will result in a worthy display of "Dearborn" brick. There is no desire to displace any other good material, but in view of the fact that many square feet

of common brick are exposed on several sides of almost all buildings erected in Chicago, everyone will agree that any betterment in the appearance of Chicago common brick-work is worthy of attention.

The Chicago Brick Exchange is the patron of this com-



Close-Up View of One of the Homes of the Housing Project Which Is Faced With "Dearborn" Brick.

petition, and will pay the prizes which are: First prize, \$150; second prize, \$100; third prize, \$50. A jury of four prominent members of the architectural profession has been selected to judge the designs submitted.

The problem is to design an exhibit of "Dearborn" brick to be built in the room of the Chicago Brick Exchange, Room 219 Chamber of Commerce Building, Chicago, Ill. Each competitor will be required to visit the present exhibit, and study the effects produced in the panels already laid, and from them work out combinations of his own, both as to the proportions of the various colors or grades of "Dearborn" brick to be used; the bond, and the color and width of mortar joints. Face brick may be used as trimming, but preference will be given to those designs which require the use of "Dearborn" brick only. No wood may be used, except for the counter and gate.

Considerable space will be given to the design of the fireplace and there will likely be sufficient space remaining in which case it is required to design the side with brick panels.

This contest should prove of considerable benefit to the brick industry in Chicago because of widening the use of local brick and may bring out some new classes of fireplace designs that will be a revelation in the construction of this specialty.



Coal Production Back to Normal

Bituminous coal production has come back to normal since the settlement of the strike. The coal output for the week ending January 3 aggregated 10,950,000 tons, an average of 2,066,000 tons per day for the five working days. It was an increase over Christmas week of 2,391,000 tons. Compared with New Year's week last year the increase was nearly 30 per cent.

Total bituminous production for the year 1919 is given as 458,063,000 tons, 120,000,000 tons less than were produced last year, and 50,000,000 tons short of the estimate which had been for the year's output at the beginning of the period.

The output of shipping mines in the Illinois coal fields was decreased by 8,500,000 tons in November and 5,000,000 tons in December, by the strike, according to J. C. Thompson, director of mines and minerals.

BALANCE POINT *of* DRAFT

in SCIENTIFIC BURNING

*Discussion of Draft and Its Relation to Burning in Kilns,
Referring Especially to Hoffman Type of Continuous Kiln
Also Some Suggestions on Furnace and Flue Construction*

By William A. Butler

IN THIS COMPARATIVELY BRIEF ARTICLE I intend to take up the explanation of one of the much discussed and much misunderstood points of combustion, referring especially to its relation in brick burning. This is not a claim to have discovered anything new since the principles have always existed, and every properly regulated Hoffman kiln is an example of a subject which I shall try to elucidate.

In an article published above my name written for *Brick and Clay Record* in 1913, I made a positive statement that until the relation of the draft of a stack and the pressure of the atmosphere was thoroly understood, the burning of brick would be more empirical than scientific. In order to bring this statement up-to-date, I will amend it to read: "When suction and pressure and their relation to each other are thoroly understood and demonstrated in a practical way, then the burning of brick is truly a science."

Unfortunately, I have no copy of either *Brick and Clay Record* containing the above mentioned article, or the manuscript of the article mentioned. Hence, I must rely upon memory to prompt me in regard to something written "before the war."

The subject, as I remember it, was "How to Increase the Capacity of a Continuous Kiln One Hundred Per Cent." I did not then approve, nor do I now, of an all down-draft system of speeding up a continuous kiln by means of a strong draft maintained by a suction fan. Neither would I approve of an all up-draft system which would be produced by a blower fan in the "wake" of the kiln.

PREVIOUS ARTICLE'S SUGGESTIONS NOT FOLLOWED

It is the mean between these two extreme conditions which I then named, for want of a better title, the "draft point." Balance point would perhaps be a better term. The article created quite a lot of comment and criticism at the time of publication, and I might frankly state, was not taken very seriously.

I do not know of a single instance where the owner or

operator of a continuous kiln has taken advantage of the information which was given in that article on how to increase the capacity of a kiln. However, when we consider that a properly handled Hoffman kiln will turn out practically one hundred per cent. first class brick with a fuel consumption of but 200 pounds of coal screenings per thousand brick, and that it requires from 997 to 1,307 pounds of coal to burn one thousand brick in down-draft kilns, the operator is apt to say, "Better leave well enough alone."

Now, it is this very comparison between the fuel consumption of the Hoffman kiln and the down-draft and other kilns that caused me to start an investigation on my own account. The question came to mind, "Is there any reason—any other principle involved, aside from the economy obtained by pre-heating the combustion air and pre-burning the brick with that, which for the most part in other kilns is waste product,—which accounts for the economy of the Hoffman kiln?"

The fact that a new theory was spreading at that time which stated that there was no such thing as draft only made the situation seemingly more complex and research, I consider, would be waste of effort for the reason that most literature on the subject was a hazy mist. One can read volumes of dry stuff with carefully compiled data, the latter made to fit the theoretical matter as inconsistent and elastic as a rubber band, and we look in awe at the wonder of it.

WHAT CAUSES DRAFT?

I was continually asking myself, "What is the balance point in the settling heat section of a Hoffman kiln, or why is draft?" A skilled operator of a continuous kiln, like the well trained chauffeur can handle his machine to perfection, but knows as a rule absolutely nothing about the scientific principles involved. After we have looked into all the different theories which have been advanced, some absolutely contradictory to others, we can sit back and laugh

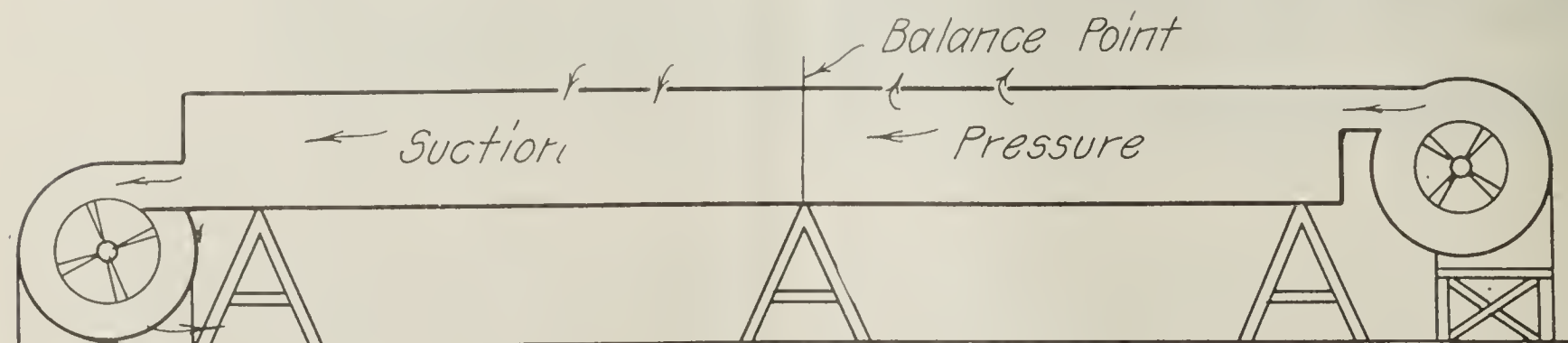


Fig. 1. Illustrating Conditions in a Tunnel Where You Have Simply Suction, Draft Point and Pressure.

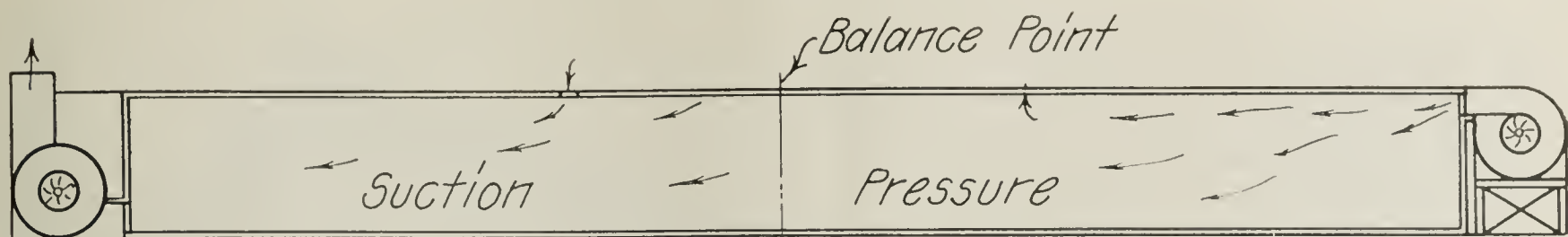


Fig. 2. This Illustrates Conditions in the Same Tunnel Under the Influences of Brick Burning Conditions Where Suction, Pressure, Heat and Cold Are Contended With.

to think of all the camouflage and mystery in which the subject is enmeshed.

Let us investigate—on the upper floor of one of these well regulated Hoffman kilns, we find rows of capped openings used for the most part for feeding coal screenings, which is the only fuel used in these kilns for burning brick. At or near the time we reach the settling heat, we lift a cap and uncover the opening. We find a neutral condition with an undecided draft, now puffing out and then again drawing in, as if the draft at this point were stationary. If we go forward from this point or in the direction in which the fire is moving and raise a cap, we find a decided down-draft. Now, if we go back from the settling heat to the portion in the kiln where the brick are already burned, we find in lifting the caps, a decided up-draft. And so, the great secret stands as plain before us as the noon day's sun. Balance point—suction-pressure. Nothing more.

The late Jacob Buhner of—well Europe, established a system of speeding up a Hoffman kiln, which system has been followed in different parts of the world. His scheme consists of a suction fan in place of a stack which causes a rapid movement of air thru the kiln, allowing the kiln to be in an all down-draft condition, or all in suction. While it must be admitted that this system greatly increases the capacity of the kiln over the draft of a chimney balancing the pressure of the atmosphere, as in the kiln we previously mentioned, the increase of quantity is obtained at the expense of quality. Anybody at all familiar with the burning of high grade clay ware knows that after the dehydration period is passed, the heat is not absorbed by the goods properly if an extreme suction or partial vacuum condition exists in the kiln until the finish of the burning.

DEFINITION OF DRAFT

In the last analysis of the continuous kiln, I think that I have uncovered enough evidence to make it clear to anyone that a rapid movement of air may be obtained without suction or partial vacuum in the high heat zone. Now, it means little what draft is, but as long as we have discussed it, it is only proper that we give it consideration. The school-boy edition of the dictionary says that draft is "A current of air passing thru a channel or aperture." In the ordinary house chimney, factory chimney or tall building, or in any kind of a hollow shaft with an opening at top and bottom, we find a continual upward movement of air, which from all evidence is drawn in. It is draft. Draft, as the word implies, is caused primarily by suction and secondarily by pressure of the atmosphere.

As we are fully aware, all things in nature are striving to adjust themselves. Air, like water, seeks its equilibrium, and wherever a partial vacuum is formed, an inrush of air from atmospheric pressure fills the partial vacuum. Trade winds along the sea shore are an example of vacuum and pressure. Heat and cold have also to do with air movements which we will deal with later on. In the ordinary house chimney consisting of a hollow shaft built of brick or burned clay, let us suppose it is in a two story house, and extends from the ground to the roof and out into the

atmosphere. There is no opening but its top and a thimble in the second floor. We find an upward current of air or a suction at the thimble and declare it has draft in it. We puncture the flue between the thimble and the top and find the air is drawn in—more draft. In the case of a tall stack or shaft, we find the same thing—draft.

USES PRACTICAL TEST

We will admit for the sake of argument, that the temperature is slightly warmer at the base than at the top, that the pressure of the atmosphere is greater at the bottom than at the top, that the air inside of the chimney is relieved from pressure between bottom and top by the shell or wall. We have all the conditions in favor of pressure, but without suction or partial vacuum at the top of that stack, the pressure would be inert till dooms day. Reverse the condition with greater heat and pressure at the top of the stack and a strong wind blowing, the heat and pressure are out-balanced by vacuum at the top of the stack—draft. Heat or heated air rises, as we know from the heating system being placed in the basement of a house. Cold air descends as in a refrigerator where the ice receptacle is always at the top. Now, suppose we make a practical test of pressure, suction and balance point, without the influence of heat or cold; let us assure ourselves that it is not a dream but a fact.

Let us take an unused stack—anything up to two feet or more in diameter and twenty feet or more in height. We will set it horizontally and connect a small pressure blower on one end and a suction blower on the other end and close up the ends around the blower inlets, so that no weather influence can interfere with the movement of air thru the tunnel. After starting both blowers, if we make a hole in the center just big enough to find out whether the air will be drawn in or forced out, and find after making the hole that the air is drawn in, then our pressure blower must be speeded up until there is a neutral condition in the center, with a decided suction towards the suction fan and a decided pressure toward the blower.

EASY TO SPEED UP BURNING

Now just imagine this section as a Hoffman kiln section and you will understand how perfectly feasible it is to speed up the burning by increasing the draft, yet strictly maintaining the balance point. You will notice that the pressure blower forces the air in at the top, while the suction fan draws the air out of the kiln bottom. This is as it should be since any back movement of air in a continuous kiln causes heated air to move at the top. A blower at the top precludes the possibility of back draft. This outward moving air heats the incoming air which being colder than the air in the kiln, naturally falls to the bottom.

In the pressure zone of the kiln, the entering air under the influence of heat, expands and rises. In the suction zone of the kiln, the air contracts and descends—a perfectly normal condition for proper brick burning. The air passes out of the kiln about 300 deg. Fahr. hotter than the entering air, and in common brick the air is increased in volume not less than three times its bulk when entering.

We can also imagine figure two as a railroad tunnel kiln. The tracks as well as the rolling mechanism are protected from the heat by being arranged below the great heat zone and insulated with such materials as asbestos, infusorial earth, fire brick, and so forth.

BALANCE DRAFT IN DOWN-DRAFT KILN

Is it possible to obtain positive draft conditions and maintain a balance point in a down-draft kiln? It certainly is. In the down-draft kiln, once having driven a sufficient amount of heat to the floor, we lessen the suction by dropping the damper or checking the draft with a cold air cut out, as the case may be. The systems used by Boss, McManigal, Underwood and the Peoria Brick & Tile Co. are all a step in the right direction toward the balance point. It is certainly more logical from a standpoint of economy to drive the heat to the floor than to try to heat up the floor by a strong suction draft which will draw out more heat than is absorbed by the brick in the lower section of the kiln.

As I have already stated, the conditions existing in the down-draft kiln during the burning are just the same as in the continuous kiln with a strong suction or down-draft during the watersmoking period, and more pressure than suction at the finishing up period. The draft point in this case is a movable factor from the furnace at the watersmoking period to the damper at the finish. Not being able to follow the draft point thru a down-draft kiln as readily as in the continuous kiln, it will be necessary to establish a progressive ratio between suction and pressure according to the individual kiln and the character of the brick to be burned.

Stiff-mud brick will require more heat than soft-mud brick and as a consequence a longer period of time, and dry-press brick will require still more fuel and a longer burning period.

Before I proceed further with this article, I will remind the reader that there can be but one object in scientific brick burning and that is to produce a superior brick in a shorter time and with less fuel than the ordinary every day brick requires.

ADVISABLE TO HAVE MORE FURNACES

Now, having decided the how and why of brick burning, let us look into our kilns and see if they are in condition to stand rapid heating up. False economy in the matter of furnaces, dampers and outlets are responsible for all delay in brick burning. I, personally, have never seen a kiln of any kind that had too many furnaces, and the only system of kiln that has too much outlet is the ordinary clamp or scove kiln or Dutch oven. The only reason for saying that the scove kiln has too much exit is that the outlet is not controlled. I have shown the extremes, suction and pressure. Now I will show extremes in brick burning, especially in regard to the number of furnaces in proportion to the amount of brick being burned.

"A" has a kiln which holds 100 M. brick. It has ten furnaces, and a draft flue which has an area of some eight or ten square feet. It requires ten days' time to burn off this kiln of brick. He also has a test kiln in which he burns 300 brick in ten hours.

"B" has a kiln holding 100 M brick with twenty furnaces, but unfortunately he has not made provision in his kiln bottom and flues for the twenty furnaces. The kiln is burned in less time than A's but the lower brick in the kiln are often scummed and kiln marked. The scumming can be overcome by a mechanical mixture of barytes as outlined by Professor Binns and others, but the kiln marking is caused by a too rapid heating of the brick before they are in condition to stand up under rapid heating.

Has B too many furnaces? Decidedly not. A's test kiln has a furnace for three hundred brick which burns number one brick in ten hours while B has a furnace for five thousand brick. But, the wily old brickmaker asks, "Where is the economy in burning brick in test kilns?" A test kiln, as we know, is not built for economy but for making rapid calculations on new or untried materials. However, we can build a railroad tunnel kiln in units of three hundred brick and beat the down-draft kiln two to one both in economy and time. I therefore say that I have never seen a kiln with too many furnaces.

SPACING OF FIRING HOLES

In the continuous kiln we find furnaces corresponding to firing holes thru the crown of the kiln, distances apart all the way from one and one-half to four feet. Needless to say, other conditions being right, the closer firing holed kiln has a greater capacity with no redeeming feature for the kilns with less firing holes. At first thought we might agree with those who say that the spacing should be made accordingly as to whether the clay requires a high, medium or low temperature. If the clay stands a high temperature which can be the only seeming reason for greater distance fire holes, why slow the kiln down and fire twice as hard, punishing the brick in the fire holes to burn the brick in between?

As Bill would say: "The last thing of all that ends this strange eventful holocaust is the exit flue or passage from the kiln to the stack or blower." In line with my previous statement, I have never seen a continuous kiln with too many outlet flues; some kilns have flues eight feet apart, some sixteen feet or more. Four feet apart is by no means too close for rapid burning. It is neither economy nor common sense to punish the brick in the lower section of the kiln, increasing the tendency to scum and kiln mark, by driving damp and sulphur vapors thru distances of sixteen feet and greater, when they could be side-tracked every four or less feet.

The ideal system of flues in the bottom of a down-draft kiln is one with flues in a direct line to the center flue in the bottom with no cross head flue or square corners to obstruct and condense the vapors during the early part of the burn. Imagine if you will, a perforated disk with a hollow cylinder fastened on its ends in the center of the disk. Now imagine that the disk is the kiln floor and the cylinder is the center flue. The outside flues may enter the center flue as low as ten feet or more. It is an easy matter to even up the floor opening after a few burns.

I want to state in conclusion that altho I had in mind the writing of such an article as this for *Brick and Clay Record*, the article appearing in the May 20, 1919 issue entitled, "Chopping Off Ninety-one Hours in Burning Time," was what prompted the writing of this article, which has in these few pages enough condensed matter to fill a volume without deviating from the subject matter.



A cablegram from Warsaw to the Commerce Department, January 10, states a large emigration movement from Poland to the United States awaits adequate steamship facilities. About 20,000 persons are now awaiting transportation.



J. H. Tregoe, secretary National Association of Credit Men, states in the Journal of Commerce of January 7 that the credit structure of the nation faces contingencies which only the best of judgment and most prudent actions may avert. He states that the most serious danger to credit structure and credit commerce is the speculative spirit abroad in the land, a spirit confined not to stocks and securities of doubtful value, but to commodities of all kinds.



“BRUSH UP” *on* CLAYWORKING

An Opportunity for You to Learn or Review Modern Methods of Factory Construction and Organization to Prepare for the Coming Busy Year

TAKE YOUR BOOKS down off the shelf! Wipe the dust off and pack them up! We're all going to the short course in ceramic engineering at the University of Illinois and you had better make up your mind to come along, too. Things have been pretty quiet in the industry until the past year came strong and there are many things we have become “rusty” in, because of not having made use of some things we formerly knew, for such a long time. It's going to be a dandy chance to have some of that knowledge we have stored way back in the secluded corners of our cerebrum called back and transferred to a more accessible spot from which we can call it into ready action in case we need it during the coming year, which promises to be a mighty active one and will require much effort to keep production going at full capacity without interruption due to labor shortage and with lowest possible cost.

IF YOU'RE GREEN IN CERAMICS, ATTEND THE COURSE

Or, if you have never had the opportunity to gain any knowledge on the technical and operating end of the industry, if you're thinking of getting into the clay products game or are an executive looking for new ideas, here's your opportunity to gain a wonderful insight to the technique of ceramics, in the short space of two weeks. It would take years to gain this knowledge in any other manner. This will be an intensive course and will give you the basic knowledge with which to figure out some of the problems in clay manufacture which heretofore have baffled you.

The University of Illinois is one of the country's largest schools and is located in the twin cities of Champaign and Urbana, Illinois. Splendid facilities for teaching ceramic subjects are offered. A large new building, a picture of which accompanies this article, was completed just a few years ago for the express purpose of accommodating the department of ceramic engineering.

Splendid laboratories, completely equipped testing rooms, miniature clay machinery, crushers and dry pans, clay washing machinery, jiggering machines, dryers, kilns, etc., form part of the equipment which will be available for the short course students.

UNIVERSITY EASILY REACHED

The university itself is comprised of a large number of buildings devoted to special subjects in learning, and lies mostly in Urbana and partially in Champaign. Taken together, these two cities which lie across the street from each other, have a population of about 30,000. Champaign is on the main line of the Illinois Central Railroad and is but a three-hour ride from Chicago. Both Urbana and Champaign are on the Wabash and Big Four railroads. Inter-urban lines connect Champaign and Urbana with Danville, Kankakee or Decatur and Springfield. The street railway systems connect the university with all Champaign and Urbana railroad stations.

The short course which starts on Monday morning, March 1 and lasts until Saturday, March 13, is open to anyone in-

terested. The equivalent to a common school education is all that is necessary to be eligible for the course. Persons from any state may attend and no fees are required altho a contribution of one dollar toward the expenses of print-



Part of Laboratory at University of Illinois, Equipped With Miniature Brick and Tile Machinery, Crushers and Other Apparatus.

ing leaflets required in certain courses should be made by each person upon registration.

Some of the best authorities in clayworking—men of national prominence will be on hand to take part in the instruction work. The course is designed to meet the requirements of practical men and will deal with the principles underlying the work of managers, superintendents, foremen, burners, and others who may be concerned with the manufacture of ceramic products. The topics will cover principles used in the manufacture of all structural clay products such as brick, hollow tile, drain tile, sewer pipe, and architectural terra cotta besides pottery, glass, enamels and refractories. The instruction will be conducted in a spirit of mutual cooperation and will consist of lectures, laboratory work, practice in firing kilns and informal gatherings for question asking. Ample apparatus for laboratory work will be provided.

CAN TEST YOUR OWN CLAYS

Owing to the unusual demand for clay products at the present time, many men are investigating new properties with a view of building new plants. They may have the opportunity of testing or analyzing their own clays at the short course if they care to do so. Persons desirous of testing or analyzing their own clays may send samples of their materials to the Department of Ceramic Engineering, University of Illinois, Urbana, Ill., in time to be used by them in the laboratory work. For testing, not less than twenty-five pounds should be forwarded, preferably in the condition as delivered to the pugmill or molding machine. All shipments should bear the name and address of the sender and should be marked "Short Course Sample."

OUTLINE OF COURSES

A better idea of the course of instruction that will be given can be had by reading the following description of courses, the name of the instructor of each course also being given:

1. *The Physics and Chemistry of Ceramic Materials and Processes.*—Eleven lectures devoted to the elementary principles of chemistry and physics, a knowledge of which will

be essential to the understanding of the technical courses to follow. *Professor Washburn.*

2. *Origin and Classification of Clays.*—(Two lectures.) A study of the methods of formation of clays, the characteristics of the different kinds of clays and their uses. *Professor Parmelee.*

3. *Prospecting and Sampling of Clays.*—(One lecture.) The methods used in the examination of deposits of clay and of sampling. *Professor Parmelee.*

4. *Properties and Testing of Clays.*—(Eight lectures.) The study of the characteristic properties of clays such as plasticity, bonding power, drying, shrinkage, loss of water during drying, fineness; changes during burning such as dehydration, vitrification, color, fusion. Laboratory exercises will accompany the lectures. *Professor Parmelee.*

5. *Steam Shovel Mining.*—History of the development of the modern large steam shovel, its operation and application. *Professor Stoek.*

6. *Explosives and Blasting.*—Black powder and dynamite compared, loading holes, tamping, fuses and electric firing, precautions. *Professor Read.*

7. *Winning of Clays.*—Mechanical equipment and methods of excavation of clays. *Professor Hursh.*

8. *Haulage.*—Methods of transportation of clays from the pit to the plant. *Mr. Fleming.*

9. *Shaping of Clays.*—(Two lectures.) The processes used in shaping wares; throwing, the construction of molds, jigging, turning, pressing, and casting. *Professor Parmelee.*

10. *Dies.*—The construction and operation of lubricating dies. *Professor Hursh.*

11. *Drying.*—Principles of drying; the operation and control of the more general types of dryers. *Professor Hursh.*

12. *The Composition and Properties of Coal.* *Professor Parr.*

13. *Gas Producers.*—The manufacture of producer gas, including a discussion of the reactions involved, the advantages of gas firing and of the various types of commercial apparatus. Demonstrations. *Dean Richards.*

14. *Pyrometers.*—(One lecture.) Principal types. Care and usage. Methods of checking. *Professor Hursh.*

15. *Burning.*—Heat generation, heat transmission, heat losses, the gases as heat carriers, types of furnaces, water-smoking, dehydration, oxidation, vitrification, effect of oxidation and reduction, flashing, rate of burning, rate of cooling. Kiln records and methods of controlling kiln conditions.

16. *Kilns and Kiln Construction.*—The construction of furnaces and of kilns of various types; up-draft, down-draft, semi-continuous, and continuous. *Professor Hursh.*

FIRST WEEK—MARCH 1 TO 7TH

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8-9	Registration and Information Room 202 Ceramic Engr. Building	Physics and Chemistry	Physics and Chemistry	Physics and Chemistry	Physics and Chemistry	Physics and Chemistry
9-10		Origin and Classification of Clays	Clay Testing	Clay Testing	Steam Shovel Methods	Clay Testing
10-11	Address Dean Richards	Engines and Boilers	Engines and Boilers	Engines and Boilers	Clay Testing	Haulage
11-12	Physics and Chemistry	Prospecting and Sampling	Winning of Clays	Explosives and Blasting	Boiler Water	Coal
1-2	Physics and Chemistry	Physics and Chemistry	Physics and Chemistry	Physics and Chemistry	Physics and Chemistry	Clay Testing
2-3	Origin and Classification of Clays	Clay Testing	Clay Testing	Clay Testing	Clay Testing	Clay Testing
3-4	Clay Testing	Clay Testing	Clay Testing	Clay Testing	Clay Testing	Elective
4-5	Clay Testing	Clay Testing	Clay Testing	Clay Testing	Clay Testing	Elective

Program of Lectures and Classes to be Held During Short Course Showing Day and Hour Each Subject Will Be Given.

BLEININGER ON REFRACTORIES

17. *The Different Types of Refractories and Their Applications.*—Refractory power and its dependence upon chemical composition and physical structure. The manufacture and testing of refractories. *Mr. Bleininger.*

18. *Steam Engines and Boilers.*—Types of engines, valve setting, indicators, governors, power and care of engines. Types of boilers, gauges, feeding scale, smokeless combustion, power and care of boilers. The selection and purchase of steam power equipment for the small plant. (Three lectures. Illustrated.) *Professor Kratz.*

19. *Boiler Water.*—(One lecture.) Types of water; boiler water troubles, scaling, corrosion, and foaming; methods of treatment, water softening, and boiler compounds. *Professor Bartow.*

20. *Dynamos and Motors.*—Types of electric generators and motors; care of and repairs to electric machines; application of various types of motors. The selection and purchase of electrical power equipment. (Two lectures.) *Professor Paine.*

21. *Equipment Control.*—Selection of equipment, installation and repair, machine numbering, belting and its care, inventory of machine guarding. (Illustrated.) *Mr. Radebaugh.*

22. *Maximum Production from Equipment.*—Analysis of manufacturing operations, planning and methods of scheduling work, organization and management for economical production. (One lecture. Illustrated.) *Mr. Benedict.*

23. *Glass Technology.*—(Six lectures.) Theory and practice. Factory problems. Recent developments in the technology of glass manufacture. *Dr. Tillotson.*

24. *Enamels.*—(Four lectures.) Theory and practice of metal enameling. Laboratory demonstrations. *Mr. Staley.*

ELECTIVE COURSES TO BE GIVEN

Besides the above courses, the following elective courses will be given provided a sufficient number of persons make application for them upon the application blank to be sent in.

27. *Clay Analysis.*—Laboratory work in the analysis of clay, covering the determination of silica, iron, alumina, lime, magnesia, and the alkalies, by simple and rapid methods and with simple and inexpensive apparatus. Students electing this course may bring their own clay samples for analysis. *Professor Washburn, Mr. Libman.*

28. *Pottery Bodies.*—(Four lectures.) The various types of wares, the raw materials used, the methods of manufacture, the properties and uses; for example, porcelains including electrical and chemical, whitewares, tile. *Professor Parmelee.*

SECOND WEEK—MARCH 8TH TO 14TH

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8-9	Drying	Drying	Glass	Burning	Equipment Control	Elective
9-10	Glass	Glass	Burning	Dies	Enamels	Elective
10-11	Shaping	Kilns	Glass	Refractories	Production from Equipment	Electives
11-12	Kilns	Shaping	Burning	Enamels	Enamels	Elective
1-2	Drying	Kilns	Refractories	Dynamos and Motors	Pyrometers	
2-3	Glass	Glass	Gas Producers	Refractories	Dynamos and Motors	
3-4	Elective	Gas Producers	Elective	Enamels	Elective	
4-5	Elective	Gas Producers Demonstration	Elective	Enamels Laboratory	Elective	

Program of Lectures and Classes to Be Held During Second Week of Short Course Showing Same Data as Previous Table.

29. *Glazes.*—(Four lectures.) The preparation and characteristics of the more important kinds of glazes; for example, lead glazes, bright and matt, bristol glazes, fritted glazes, porcelain glazes, salt glazes. Body colors, slip and



Part of Laboratory Which Contains Test Kilns Fired By Oil and Coal at University of Illinois.

glaze colors; overglaze and underglaze colors. *Professor Parmelee.*

30. *Drafting and Reading of Drawings.*—The elements of mechanical drawing, reading of blueprints, practice in drawing. *Professor Hursh.*

One of the students of a previous short course stated that he had received enough information from a single lecture and discussion on dryers to be able to go back to his plant and overcome a trouble which had been causing a great deal of loss and expense for more than a year. To all readers who possibly find the opportunity to attend this short course we unhesitatingly recommend that they by all means do so. It is essential that you send in your application for enrollment now, to the Department of Ceramic Engineering, University of Illinois, Urbana, Ill.



"Turn of Tide" Prediction Comes True

The Secretary of Treasury, January 11, issued a bulletin relative to general financial situation of Government, in which he asserted that figures at hand up to end of fiscal year more than realized sanguine expectations which he entertained last September when he predicted that the "turn of tide" would come with end of December. He stated that on basis of Treasury daily statements, the Government's gross debt on August 30, 1919, was \$26,596,703,648. On December 21 it amounted to \$25,837,078,807.38. Its floating debt on August 31 was \$4,201,149,050.39. On December 31 it amounted to \$3,578,485,800.37.



Two New Ceramic Appointments

The College of Engineering of the University of Illinois, Urbana-Champaign, announces the appointment of Elmer Newman Bunting as research associate in ceramic engineering in the Engineering Experiment Station. Mr. Bunting graduated from the University of Chicago in 1915 with the degree of Bachelor of Science and received the degree of Doctor of Philosophy in 1918; was assistant in general chemistry at the University of Chicago 1913-15; and was connected with the Bausch and Lomb Optical Co., 1918-19, in the manufacture and research of optical glass.

Enoch G. Bourne was appointed as laboratory demonstrator and potter in the Department of Ceramic Engineering. He graduated from the School of Industrial Arts at Trenton, N. J., in 1913; was instructor in the evening course in ceramics at the School of Industrial Arts 1913-17; has had twenty years' experience in pottery, having served as assistant superintendent in the New Cumberland plant of the Warwick China Co., of Wheeling, W. Va., for several months before entering upon work at the University of Illinois.

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Pennsylvania Brick Men Predict Boom Times

The annual meeting of the Brick Manufacturers' Association of Eastern Pennsylvania, Southern New Jersey and Delaware was held at the Manufacturers' Club, Philadelphia, Pa., with a good attendance from the various districts. The meeting was one of the optimistic tone, with general belief of those assembled that 1920 will be a big year in the business and bring about little short of "boom" times; with the demand for housing and industrial structures it was set forth that the call for common brick during the coming spring will be exceptionally keen, with prices at a level to warrant full plant operations. It was said that the reason for a curtailment in production at the present time is due to weather and fuel conditions, while, moreover, the market has not the stability to allow stocking up to any great extent. The following officers were elected for the coming year: Edgar C. Shimer, Allentown; William Conway, brick manufacturer operating under this name at Philadelphia, secretary; and James B. Oberly, Wilmington, Del., brick manufacturer, treasurer.

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Three Important Conventions Held

Three large conventions were held in Columbus, Ohio, during the week ending January 24, all of which had an important bearing on the brick industry, especially the manufacture and distribution of pavers. The three associations were the County Commissioners' Association of Ohio, the Ohio Engineering Society and the Ohio Good Roads Federation. All three of the conventions were intertwined and speakers in many instances addressed two or more of the meetings. One of the features was the celebration of a decade of service by the Ohio Good Roads Federation, which took the form of a banquet at the Deshler Hotel, January 20. Prominent speakers responded to toasts among whom was J. R. Marker, secretary-manager of the Ohio Paving Brick Manufacturers' Association and a former Ohio Highway Commissioner. Good roads, the various kinds of material for road building and the increased appropriations for road improvement came in for their share of discussion. In all about 1,800 attended the three conventions. Senator W. A. Alsdorf is secretary of the Ohio Good Roads Federation, while E. S. Smith, of Youngstown, is president, and John Laylin, of Norwalk, secretary of the Ohio Engineering Society.

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December and 1919 Building Records

December building permits indicate an unusual activity, showing an appreciable margin over November, says the "American Contractor" in its last issue. The report for 185 cities gives permits issued to the value of \$152,774,755, against \$149,643,956 in November as the record for 1913 cities. This record is all the more striking as December is usually marked by a decided recession in building activity.

August was the peak month of 1919 in the issuance of

building permits. Thruout the year there have been no marked areas of special activity but the record of some cities has been especially interesting. Los Angeles, for instance, makes a remarkable showing, a total of over 28 millions; Washington, D. C., goes over the 20 million mark as against 7 millions in 1918 and Chicago has a large total for the year, more than 105 millions, surpassed only by Greater New York, which runs over 251 millions.

In comparison with previous years, the lesser purchasing power of the dollar must be taken into consideration and the fact that many smaller cities are on the 1919 lists.

The average value of the 1919 permit is about \$3,450, while that of the 1918 permit was \$2,053. While the estimated valuation of 1919 permits is much greater (198 per cent.) than for 1918, the number of permits issued in 1919 was only 384,341, compared with 216,265 permits in 1918. These facts show that the 1919 activity has been of real constructive nature and not based on small repair operations which are included in the totals of many of the cities. In the large cities, figures for repair work are usually excluded.

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Coal Production in 1919

The "Wall Street Journal" states that the coal production in the United States for 1919 has been placed at 544,263,000 tons compared with 678,212,000 in 1918. This excess of nearly 134,000,000 tons mined in 1918 over year just closed is accounted for in large measure by the fact that 1918 production was speeded up under stimulus of war needs. United States alone of allied countries was enabled to exceed its prewar rate of production in 1918, which was 120.2 per cent. of that in 1913, despite the fact that more than 125,000 men were temporarily lost to bituminous production in 1917 and 1918 and had to be replaced by others. Great Britain's output in 1918 was 255,345,440 tons, or only 79.3 per cent. of 1913 production.

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Meet Americanization Problem Squarely

It has been announced by the Associated Press from San Francisco that Herbert Hoover made the following declaration: "The whole problem of Americanization would be met in 20 years if the nation could systematically grapple with the child problem and insure proper conditions of birth, education and nutrition. In order to accomplish this, the conscience of every separate community must be developed."

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Urges Stricter Economy in Appropriations

Majority Leader Mondell, January 6 urged strict economy in appropriations as an aid to combating living costs. He said: "We cannot increase taxes, we should not issue bonds, and there is no course but to economize to the limit. Estimated liabilities for the year amount to \$9,000,000,000, while estimated receipts total only \$6,000,000,000. At least \$1,250,000 could be cut from estimates. Rivers and harbors and public buildings work should not be undertaken unless imperative, and no provision for increased salaries should be included in general appropriations."

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Complete Standstill in R. R. Development

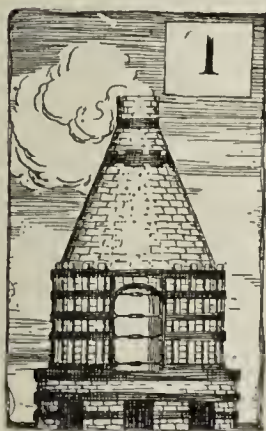
It was announced from Chicago, January 2, that statistics compiled by "Railway Age" show that the year 1920 begins with the development of the railways of the United States nearer a complete standstill than at any time in the history of American railroading.

FINE CERAMIC MANUFACTURE



A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products Such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

BRITISH POTTERY TRADES



THE TRANSPORT OF RAW MATERIALS in England was never so bad as during the third week of December, and the promises of the Ministries of Transport and Shipping to facilitate the conveyance of clays to the potteries have not yet materialized. Many factories reached famine point in regard, not only to clays, but to other materials such as plaster. The conditions at Liverpool were better with freer shipment to the United States, Canada and South America. The situation at Birkenhead, however, was bad and a consignment of pottery dispatched on September 30 for shipment via that port had not reached Birkenhead on December 13. The total exports of pottery during November were rather better than in the preceding month, and considerably better than in the same month of last year. The November shipments aggregated 144,863 cwts., of the value of £391,975, compared with 98,585 cwts., of the value of £250,142, in the corresponding month of last year. The principal movements were in exports to the United States, Canada, the Argentina, British East Indies, Australia and New Zealand.

During the third week of December, there were appeals from retailers for eleventh-hour supplies dispatched by passenger trains besides motor vehicles, visiting factories in the hope of securing goods even for late Christmas shoppers. There were insistent calls for all classes of goods, decorative and useful, but especially for domestic wares, and there was a seasonable touch of humor in the urgent demand for basins for the Yuletide puddings. In numerous towns, retailers were absolutely cleared out, and the same applied to the factories; indeed, stocks of every kind of ware were never lower. In these busy closing weeks of the year manufacturers have been more than ever hampered in their endeavors to oblige customers to the fullest extent. Coal supplies were intermittent, frequently falling short of the rationed quantities; and transport, so far as the incoming raw materials were concerned, went from bad to worse. There were never so many complaints as now of firms waiting for materials, not merely clays, but also flint, china stone, felspar and plaster. Clay supplies were coming in, but they were very limited and spasmodic, and it was a common ex-

perience for firms to come down to the last ounce and to be on the point of stopping when a small supply arrived. The government scheme to send clay from Cornwall to Gloucester by rail and thence by canal to Staffordshire, is by no means a flash of genius. Extra expense, further delay, and loss of material is occasioned by transshipment, besides grave risk of contamination of the clay, which may mean hundreds of pounds of loss in defective ware. Moreover, it is understood that facilities at Gloucester are insufficient for dealing with large quantities, as instanced by recent accumulations of clay there. The trouble in regard to plaster, as in the case of other materials, was the shortage of wagons, except that for plaster the situation was worse, inasmuch as covered-in vans were essential, for the smallest amount of moisture will, of course, render plaster useless.

EXCELLENT EXPORT MARKET

It is some satisfaction to note better exports to distant markets like Australia and New Zealand. Dealers and importers from these countries now or recently in England, emphasize the insistent call for British goods, but point out that the Japanese are making a great bid for these markets, and are securing trade in the absence of adequate supplies from England. The demand from the Antipodes was very strong, and likewise from South Africa. The latter country asked for good classes of wares, whereas the former demand was all for the cheapest.

With the Christmas holidays the industrial year is practically concluded, leaving books loaded with orders and a demand for goods stronger than at any time during the year.

In many cases business booked at the British Industries Fair last February and March has not been fully executed, and some firms still have twelve-months-old orders in hand. Not a few of the Pottery-houses showing at the forthcoming British Industries Fair in London will be unable to take any orders except for many months ahead, and will make their exhibit merely a display of wares, in order to keep their manufactures before the world's buyers. Anything like early delivery is quite impossible, and American and Canadian dealers in the potteries district, during the third week of December, were quite willing to place orders for delivery next July and August.

Very few firms are yet up to prewar output and 75 per cent. is much nearer the average. A steadier and larger supply of coal and a solution of the transport muddle, in order to ensure something like reasonable delivery of raw materials, are essential to increased production, even more than factory extensions, for few works are able to manufacture to their full capacity. Nevertheless, the considerable building operations in progress at a number of works should help the total output of the industry in the coming year.

With the call for goods so urgent, prices are no object with many buyers; but taking into account the high cost of fuel, raw materials, transport charges, and labor, the selling prices now prevailing are not excessive. In the general

earthenware trade—the mainstay of the industry—selling prices, which are fixed by the association for all manufacturers, are now 140 to 170 per cent. above prewar level, the higher rate relating to commoner grades of goods. For high-class china—generally made by firms who produce both earthenware and china—selling prices are 130 per cent. over the rates prevailing before the war. For the middle-class and cheaper grades of china—fixed by the China Manufacturers' Association, it is difficult to give a definite figure, but the average is probably 200 per cent. over the prewar standard.

Arising out of the last annual wages settlement, an agreement has just been reached in the general earthenware trade giving effect to a revision of departmental making prices, and fixing minima thruout this branch of the industry. This improves for the operatives the basis on which their 80 per cent. increase over prewar rates is paid.

The tile manufacturers have now conceded an all-round increase bringing wages up to the general earthenware standard.



Demand for American Product Soars High— Potters' Wage Scale Reopened

It has been conceded in a general way that the bulk of new business now being booked by the generalware pottery manufacturers thruout the country is for future delivery, there being one instance related where one firm has been given specifications for a generous shipment in January, 1921. All generalware potteries are quite crowded with business, and this would indicate that both retail and wholesale distributors thruout the country are enjoying equal activity in this particular line of business.

Indications are that only limited shipments of Nippon ware will be received this year by American importers, and this incident will be reflected in the continued liberal demand for American semi-porcelain and vitreous china dinnerware and hotel ware. English factories are pretty well sold up, according to most reports obtainable, and only limited shipments of French ware will be received. Therefore, the demand for the American product will of necessity continue to soar.

The general volume of business being placed by domestic pottery buyers this January season is far in advance that witnessed during the buying season of previous years. The volume of back orders on file in the different potteries in the Ohio district, given to be shipped in 1919, is far more extensive than has been heretofore recorded. Coupled with a record volume of new business being received for 1920 delivery, the generalware manufacturers are being pressed to the limit for production. Of demand, there seems to be no end. Buyers from Cuba have been in the market during the last few days, and some very liberal orders for American pottery have been left by these interests. The Canadian buyers are not expected in the pottery districts much before the month end, but these interests have always been liberal purchasers of American dinnerware and other ceramic specialties, and their possible volume of requirements are generally anticipated by the American manufacturers.

Whether or not the American pottery manufacturers will have to revise their selling lists again depends upon the wage conference results. The first of the conferences took place on January 16 in New York City, and was between the Labor Committee of the United States Potters' Association and the Conference Committee of the National Brotherhood of Operative Potters. The pottery workers when existing wage scale was agreed to last fall made the reserva-

tion that should the cost of living continue to increase, right was held to have the scale reopened. The manufacturers, after receiving an official request for another conference agreed to such a conference, but, "without conceding that living costs have so increased to warrant that the scale be reopened."

The Executive Board of the National Brotherhood of Operative Potters will also take up the matter of an increased wage for the workers in the sanitary pottery branch of the industry. Such a conference with the Sanitary Pottery Manufacturers was scheduled for January 21 at Atlantic City.

For many months ceramic product manufacturers have been unable to predict what manufacturing costs would be from one month to another. There have been numerous advances in the generalware pottery industry as well as in the sanitary pottery branch of the trade, and at the same time raw material and other charges have also advanced, at times, over night. The present situation is one of the most unusual ever experienced by the trade.



China Ware Plants Sold Out Months Ahead

Potteries at Trenton, N. J., are operating under a high wave of demand and at the greatest capacity possible under existing conditions, for fuel and labor are important factors to be reckoned with. The chinaware plants are sold out for months ahead and the hotel ware end of this line of trade is experiencing a demand such as never before has ensued. The sanitary ware plants are feeling the effects of the building movement in a very substantial way, and stocks from plants of this character are moving freely and with great rapidity. The electrical porcelain works in this locality are practically refusing orders with any stated time of delivery; these plants are now handling work that has been on the books for some months past, and are doing the best possible to maintain maximum production. The outlook in all branches of the pottery trade is very bright and 1920 seems destined to be a banner year for the industry.



To Increase Output About 25 Per Cent.

The Cook Pottery Co., Trenton, N. J., is planning for extensions in its plant to increase the output by about 25 per cent. The company specializes in the production of electrical porcelain specialties executing work of this character for many of the leading electrical concerns. The new addition with equipment is estimated to cost about \$30,000. Charles Howell Cook, president of the company, returned early in January from a trip to Chicago, and was very active at the annual convention of the United States Potters' Association, Hotel Astor, New York, January 6 and 7. He is now planning for a trip to Florida, to be absent for a few weeks.



Porcelain Plant Expands

The Star Porcelain Co., Muirhead Avenue, Trenton, N. J., manufacturer of electrical porcelain specialties, has completed plans for the construction of a two-story brick addition to its plant, 34x68 ft., for increased operations.



Will Build Extension to Pottery

Additional ground has been purchased by the Brush-McCoy Pottery Co., adjoining its No. 2 plant at Roseville, Ohio, and extensions to that plant will be started at an early date.

The firm recently suffered a fire loss at its main plant in Zanesville, Ohio. When additions have been finished, the firm will probably resume the manufacturing of art pottery, which it followed at its Zanesville plant. Yellow ware and stoneware products are being made at the Roseville plant of this firm.

* * *

Idle Pottery to be Reopened

The four kiln pottery at Chittenango, N. Y., said to be the only idle pottery of such size in the United States, has been taken over by Albert E. Wales, Frederick J. Plant and Harry and John Mountford, of East Liverpool, Ohio, and will be placed in operation making tea pots and an extensive line of cooking ware. About 150 people will be given employment.

* * *

Increases Capacity to Seventeen Kilns

On account of the increased demand for its product, the Potters' Co-Operative Co., of East Liverpool, Ohio, has taken title to the six kiln generalware plant of the Standard Pottery Co., heretofore known as the "Standard No. 2" plant. This addition will make the purchasing interest the fourth largest operating pottery concern in Columbiana, Ohio, giving it a capacity of seventeen kilns.

* * *

Lost Sixty Kilns During Fuel Shortage

During the fuel shortage in December, it is estimated that upwards of sixty kilns were lost among the potteries at Carrollton, Ohio, the location of the plants of the Carrollton Pottery Co., and the Albright China Co. These plants fire their kilns on coal, and as their supply was low, regular schedules of kiln burning could not be followed.

* * *

Pottery Manager Dies After Long Illness

Thomas D. Blackmore, one of the most widely known pottery managers in the United States, and a prominent musician, died after a four years' illness in Cincinnati, Ohio. The body was returned to his late home in Chester, W. Va., where he was last engaged with the Taylor, Smith & Taylor Pottery, and interment made in Riverview Cemetery, East Liverpool, Ohio.

* * *

Pottery Manufacturer Goes Abroad

H. S. Maddock of the Thomas Maddock's Sons Co., Trenton, N. J., manufacturer of sanitary earthenware, sailed for Europe on January 6, to be absent for about two months. Mr. Maddock will combine business and pleasure on the trip and has arranged an itinerary that includes England, France, Belgium, and possibly Spain.

* * *

Plan to Fire Kiln with Oil

The Bedford (Ohio) China Co., one of the first firms to place a continuous kiln in operation in the eastern Ohio pottery district, is now arranging to fire this kiln with oil. The operators have said that by using this character of fuel a better product could be obtained.

* * *

The Van Pottery Co., Trenton, N. J., has filed plans for the erection of a one-story building on Parker Avenue, to be used for packing service at its plant.

New Pottery Capitalized at \$60,000

The Horton Pottery Co., of Chillicothe, Ohio, has been chartered with a capital of \$60,000 to manufacture various kinds of pottery. The incorporators are Christopher Horton, Florence A. Horton, Charles M. Horton, James F. Machin and Alberta H. Machin.

* * *

The Almada Ferro China Co., New York, has been incorporated by Brooklyn interests with a nominal capital of \$5,000 to manufacture chinaware. The directors are A. Ricardi and W. Martini, 198 Sackett Street, Brooklyn.

* * *

A Novel Drain Tile Advertisement

The Haviland Clay Works, manufacturers of drain tile and building brick at Haviland, Ohio, have gotten out a business card the reverse side of which contains a "catchy" boost for drain tile. It reads:

I am only a hole in a humble vocation,
Yet I greatly control your civilization.
I am very tenacious and hard as a stone,
And like old Horatius in holding my own;
So lay me down, keeping me straight in the ditch
And while you are sleeping I'll be making you rich.
Every farmer of pride dearly loves to provide
For the future—the son and the daughter;
So give me a chance, and I'll greatly enhance
Every acre I drain of its water;
And here's my great beauty—I'm always on duty,
Out of reach of "the bulls and the bears".
And when you're in your grave I'll continue to slave
For your children—their children—and theirs!
My habits are good—I require no food—
(My joints are all made without mortar)
And I always abstain when deep in the drain
From everything stronger than water.
If your land is too wet and you are burdened with debt
And encumbrance begins to accrue,
Obey nature's laws—by removing the cause:
Drain your farm—or it will drain you.
'Tis so foolish to plant where the goose or the brant
Might paddle from March to September;
You might as well sow on a November snow
And expect seed to grow in December.
Some farmers are failing and weeping and wailing,
And blame the good Lord without reason!
When if they would stop sowing seed in the slop
They might raise a good crop every season.
Most farmers lament the money they've spent
For things only made to beguile;
But never as yet did a farmer regret
The money expended for tile.

This clever bit of verse seems to be doing work all right, for the Haviland Clay Works are very busy at the plant filling orders booked.

* * *

Why Building Costs Will Remain High

"It is our firm conviction existing prices will not decline," state S. W. Straus & Co. "In the production of building material, labor, transportation and fuel constitute, at a minimum, 75 per cent. of the cost of construction, and careful analysis of fundamental conditions shows no likelihood of a decrease in the cost of any of these prime essentials. Added to this is a nation-wide shortage of buildings, which will require at least five years of intensive activity to meet. For these reasons, the investment value of building now is obvious. Every consideration of self-interest and public service justify going ahead."

* * *

The Post Office Department announces that during the three months ended December 31, 1919, 36,233,821 pounds of Army food supplies for distribution to the public over entire country were shipped from the various supply bases as mail matter thru Railway Mail Service.

* * *

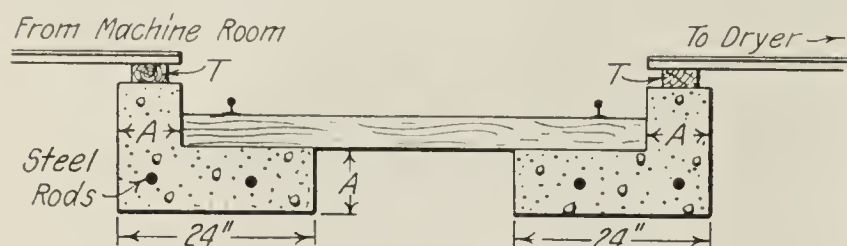
The Merchants' Pottery Co., New York, a state corporation, has been dissolved.

The SUPERINTENDENT

Helpful Hints for Practical Men
Whose Problem is Maximum
Production With Minimum Cost

Making a Better Transfer Track

In quite a number of brick and tile plants, there is more or less trouble with transferring a car loaded with ware from the machine room to the dryer or from the dryer to the kilns. It is not unusual to see several men trying their



Method of Constructing Transfer Tracks So As to Avoid Uneven Settling of Rails Which Would Make Transfer of Cars Difficult.

best to execute a safe transfer of a car of ware from the machine room tracks onto the transfer truck or at one of the other transfer points. This is caused by the uneven settling of the transfer and the narrow gauge tracks which lead to the transfer.

One plant, however, has overcome this trouble in a very satisfactory manner, and with little difficulty, as shown in the accompanying sketch. One solid slab of concrete, running parallel to the transfer rails, is placed under the end tie of each of the narrow gauge ties. Thus if any settling takes place with this arrangement, both tracks go together, and the relative position or distance between the tops of the rails will remain the same.

The distances marked "A" on the sketch are 6 inches. The ties marked "T" for the narrow gauge track are bolted to the concrete. The ties for the transfer track are fitted between the concrete on each end to prevent movement of transfer track. Considerable work would be involved to make a tie fit exactly this distance, but by fitting in blocks as wedges the above plan can be carried out with but little labor. Steel rods are imbedded in the concrete as shown in drawing.

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Taking Care of Idle Belts

In that season of the year when clay plants are idle and no wheel is turning, there is great danger of equipment depreciating at a very rapid rate unless care is taken. This is true of all the belting which should not be permitted to remain in place if the factory or any one machine is idle for any length of time.

A good method of taking care of idle belts was described in "Belting" recently and is worthy of description here. A simple and inexpensive $\frac{3}{8}$ inch round iron hook is the only thing needed. This should be hung from the ceiling by an eye hook, directly over the shafting if the belt is vertical or a trifle back from the shafting depending upon the angle of the drive, and reach almost to the rim of the pulley. If so located it will swing the belt clear of the shafting when not

in use and preclude constant friction which is bound to wear the belt, not to speak of dust and other substances the shafting will rub into it.

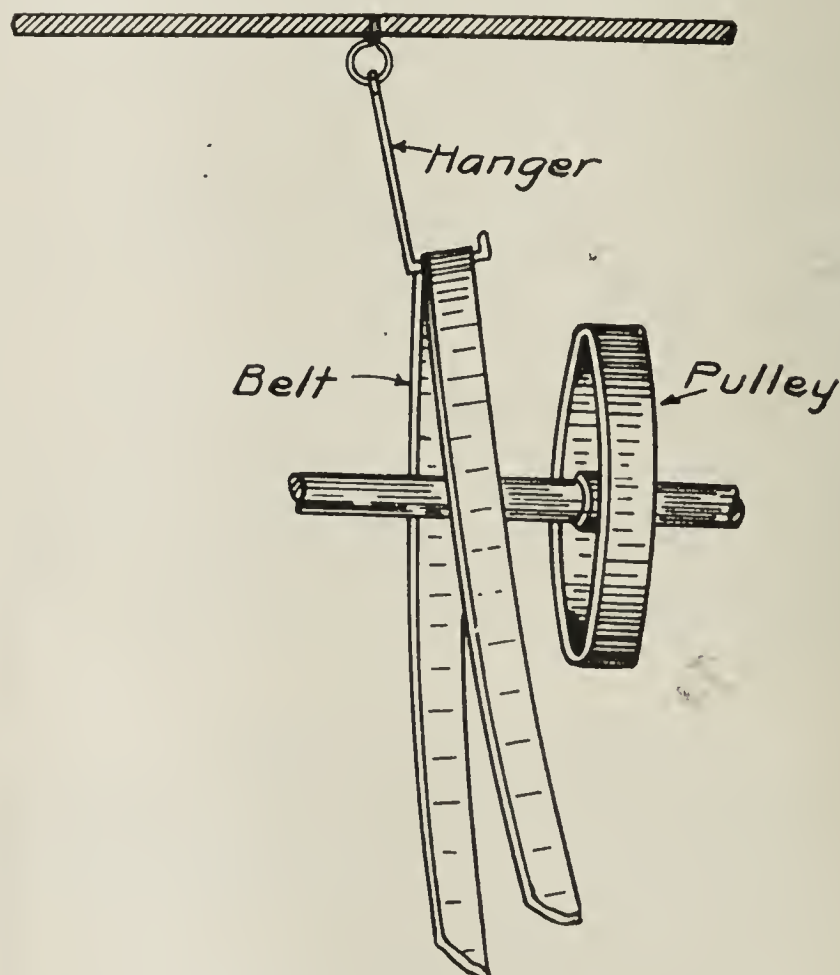
It is bad practice to permit idle belts to rest on shafting, and is not only destructive to the belt, but frequently is the cause of accidents.

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Rope Overstrain.

The cause of sudden wire rope breakage is often due to overstrain, and the best rope manufactured can be overstrained just as an inferior rope tho it may offer greater resistance and take longer to be affected. However, it can be strained to the breaking point. There is a degree of stretch in a rope which is its elastic limit. Up to that point a rope will stretch and upon release from strain will so completely recover that no permanent set is appreciable.

The handling of loads within the elastic limit of a rope may be repeated again and again, but should the strain be sufficient to stretch the rope beyond that limit even once, a part of the steel's vitality is gone and it becomes a set or a dead rope, and, even tho sudden breakage may not immediately follow, early deterioration begins. The presence of brittle wires in a failing rope usually points to overstrain.



How to Hang Belting When Machinery is Idle for Any Length of Time in a Clay Plant.

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The Tri-State Brick & Tile Co., Ironton, Ohio, has been incorporated by William Klein, with a capital of \$175,000.

IN *the* WAKE *of the* NEWS

Being a Brief Mention of a Host of Interesting Happenings in the Varied Fields of the Clayworking Industry

Well Known Potter Dies at Trenton

Walter H. Lenox, Trenton, N. J., founder of Lenox, Inc., of that city, manufacturer of high grade chinaware, and president and treasurer of the organization, died January 12, aged 61 years. In 1895, Mr. Lenox suffered the loss of his sight and about 10 years later became partially paralyzed, losing the loss of his limbs. Despite these infirmities and tho confined to a wheel-chair, he has continued active in the business. He was the originator of Lenox Beleck ware, which is known thruout the world, while the company has received world-wide recognition for its production of high-grade china and fine ceramics. An exquisite set of china was completed not long ago for service at the White House, and other sets have been executed for the state departments of Cuba and Venezuela. Mr. Lenox is survived by a sister, Mrs. James W. Johnson.

Tile Man to Enter Politics

Everitt Townsend, Trenton, N. J., formerly general manager of the Robertson Art Tile Co., Morrisville, Pa., is being induced to enter the local political campaign for County Auditor. Mr. Townsend is a man of recognized ability and independence and is responsible for a large share of the business success of the ceramic concern from which he recently resigned.

J. J. Daniels Changes Location

John J. Daniels has resigned his position as superintendent of the hollow tile plant of the Columbian Brick & Coal Co., at Buckeystown, Md., and has returned to his former home at Greensboro, N. C., for a short rest, after which he intends to again become actively engaged in the clayworking industry.

Connects Up With Ironclay Office

Albert E. Schirner, formerly teller at the Citizens Savings & Trust Co., has taken a position as salesman and office assistant with the Ironclay Brick Co., which has headquarters in the Ruggery Building, Columbus, Ohio.

Rossiter Takes a Vacation at Hot Springs

W. T. Rossiter, vice-president and general manager of the Cleveland (Ohio) Builders Supply & Brick Co., has been spending a brief vacation at Hot Springs, Ark.

Was It for a Large Brick Order?

W. D. Brickell, president, and J. M. Adams, secretary and general manager of the Ironclay Brick Co., of Columbus, Ohio, were called to St. Joe, Mich., on business recently.

Closes Best Year in Its History

At the annual meeting of the Longmont (Colo.) Brick & Tile Co., held Jan. 5, officers were elected for the coming year as follows: A. H. Gunning, president; J. A. Van Deventer, vice-president; S. W. Gunning, manager; C. A. Gunning, secretary and treasurer. Clifford Gunning was elected to

the directorate of the company. Reports for the year show that the company has just closed one of the most successful years in its history. Over \$70,000 in tile, brick and building block were manufactured and sold during the year, shipments going to nearly 100 cities in Colorado, Wyoming and Nebraska.

Iloff Concern Elects Officers

Directors were elected to serve the first six months and perfect the organization, incorporate and sell the stock for the Iloff (Colo.) Brick & Tile Co. at a recent meeting. Dr. Houf was chairman of the meeting and O. L. Cheairs, secretary. The directors elected were: Dr. Houf, O. L. Cheairs, W. F. Alexander, Barclay Roberts and John B. Garst. The plant will be put in operation shortly.

Forfeits Charter and Will Reorganize

The American Brick Co., Berlin, a Connecticut organization operating under New Jersey laws, has forfeited its incorporation charter in the latter state, with intention of reorganizing under the laws of another state.

CONVENTIONS IN PROSPECT

January 27 and 28—Wisconsin Clay Manufacturer's Association, Republican House, Milwaukee, Wis.

February 3 and 4—Sand Lime Brick Association, Lafayette Hotel, Buffalo, N. Y.

February 3, 4 and 5—Nebraska Brick and Tile Association, Lincoln Hotel, Lincoln, Nebr

February 16, 17 and 18—Common Brick Manufacturers' Association of America, Deshler Hotel, Columbus, Ohio.

February 18, 19 and 20—National Brick Manufacturers' Association, Deshler Hotel, Columbus, Ohio.

February 24, 25 and 26—Western Ontario Society, Bellevue-Stratford Hotel, Philadelphia, Pa.

February 24, 25 and 26—Western Ontario Clayworkers' Association and Ontario Drainage Association, Builders Exchange, London, Ont., Canada.

March 17, 18 and 19—The Refractories Manufacturers' Association, White Sulphur Springs, W. Va.

FIRE BRICK

DOVER FIRE BRICK CO.

Incorporated 1870

Manufacturers of North Bend, Dover and Buckeye Brands.

GROUND FIRE CLAY

Unexcelled for Kiln Purposes

509 Cuyahoga Bldg.

CLEVELAND, OHIO



Eclipse Mortar and Brick Colors

Superior to all; Reds, Browns, Buff, Black

Samples on application

Chattanooga Paint Company, Chattanooga, Tenn.

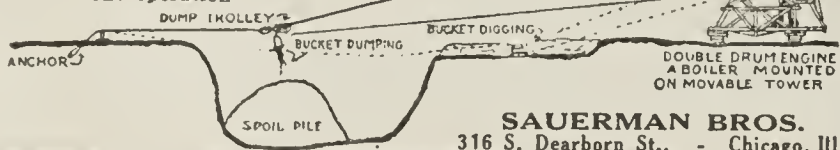
GOOD IDEAS

don't cost you anything if you get them from the ads you see in "Brick and Clay Record." Read them.

SAUERMAN'S

Dragline Cableway Excavator

It digs, conveys, dumps in one operation



Anchor Brand Colors

For Mortar Cement and Brick

Brown, Black, Red and Buff

Strongest and most durable

Manufactured by

C. K. WILLIAMS & CO., EASTON, PA., U.S.A.

Correspondence solicited

LESCHEN WIRE ROPE TRAMWAYS

Provide

Economical

Transportation



ESTABLISHED 1857

A. LESCHEN & SONS ROPE CO.

ST. LOUIS, MO.

NEW YORK. CHICAGO. DENVER. SAN FRANCISCO.

Wilson Plant Gets Large Brick Order

The Wilson (Conn.) Brick Co. is furnishing the brick for a large new building at the plant of the Hartford Special Machine Co., at Hartford, Conn.

Wilmington Operations at Slow Pace

Building operations at Wilmington, Del., continue at sort of a slow, uniform pace. There is no marked evidence of any unusual activity at the moment, but the general outlook, as a whole, is decidedly encouraging. The call for materials covers smaller operations, for the most part, but plans on the boards of local architects and engineers show that increased activities of larger scope can be anticipated, particularly in the early spring months. As a whole, it is forecasted that 1920 will prove to be a bigger year than the one just passed, and which more than doubled the volume of work put forward in 1918. The demand for homes is leading to interesting developments in this phase of construction work, and a number of projects are to be launched; among these is one covering the erection of twenty-six model houses for Joseph Bancroft Sons & Co. School work in neighboring sections is drawing a good share of attention, and considerable quantities of brick and other burned clay products will be required for these operations and Wilmington dealers will share in this call.

Company Develops Effective Wagon Loader

The brick yard of James B. Oberly, Thirty-sixth and Broome Streets, Wilmington, Del., is experiencing a good call for material, particularly from the suburban districts, and an optimistic attitude is taken as to the general outlook for forthcoming trade. This plant has a capacity of about 25,000 brick per day and fine facilities, with thoroly modern equipment in different departments of operation. Excellent service is provided with three motor trucks and three double teams of horses. The company has developed an interesting and effective wagon loader, lending to greater efficiency in this phase of the work.

Wilmington Prices Remain Firm

Common brick and burned clay products are in fair demand at Wilmington, Del., with a rather distressing factor of the situation found in the difficulty in obtaining necessary materials, and at anywhere near schedule time. Building brick is selling from \$21 to \$23 per thousand delivered, while face brick in carload lots ranges from \$40 to \$50, according to selection. Fire brick, No. 1 Standard, is selling around \$70 and the call for this material is growing more keen. Partition tile in carload lots is fetching from \$115 upwards, according to size.

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The Wardsworth Sancier Corporation, Wilmington, Del., has been chartered under state laws to mine clay, kaolin and kindred products, with operating capital of \$100,000. The local incorporators are H. E. Knox, T. L. Croteau and S. E. Dill.

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National Brick Co. Incorporates

The National Brick Co., Washington, D. C., has been incorporated by James E. Granberry, John G. Benton, Willard B. Swingle, with a capital of \$300,000, to manufacture brick.

The Columbus Brick & Tile Co., Jacksonville, Fla., recently incorporated with a capital of \$500,000, is arranging plans for its proposed new local plant, to be equipped for the manufacture of brick, tile and other burned clay products. Telfair Stockton is president, and C. W. Dixon, secretary and treasurer.



Macon Syndicate Buys Brick Plant

Reports state that a Macon (Ga.) syndicate has purchased for \$60,000 the old Charles A. Harris brick plant, which has valuable clay mines, and will operate it. The plant has been idle for some time. The syndicate is composed of A. T. Small, W. J. Massee, O. J. Massee, W. E. Dunwoody and S. T. Coleman. The new company is to be known as the Massee Brick & Tile Co.

W. E. Allison Buys Assumption Plant

Assumption (Ill.) brick and tile factory which has been operated for a number of years by the Electric & Manufacturing Co., was sold to W. E. Allison of Vandalia for \$3,500, including seven acres of land, according to recent reports. Mr. Allison will conduct the factory, with George Chaney of Assumption as superintendent.

Building Record Best for Years

Boise, Idaho's construction activity for 1919 totaled \$1,767,358 as against \$284,522 for 1918, according to the annual report of the building inspector. A total of 1920 building permits have been issued; 41 of which were for new dwellings.



Poston Paving Brick Co., Crawfordsville, Ind., has reduced the number of its directors from seven to five.



Plans Electrification of Plant

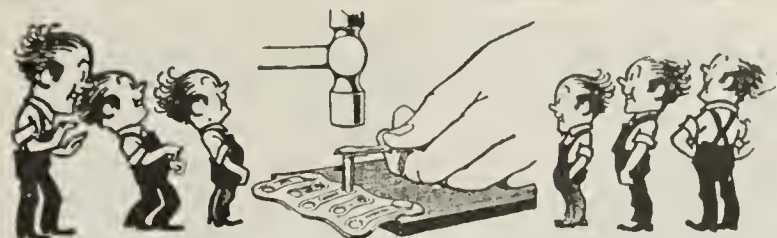
Auburn (Iowa) Brick & Tile Co. has plans under way for the complete electrification of the railway line to the clay pit at Grant City, the electrification of the hoisting plant and the installation of an electric shovel at the clay pit. The improvement will entail an expense of \$25,000 but will result in increased production and will reduce manufacturing costs.

Salina Company Changes Corporation Name

The Salina Vitrified Brick Co. has changed its corporation name to the Salina Brick & Tile Co., at Salina, Kans., and has increased its capital stock from \$40,000 to \$100,000. J. W. Neptune is president; R. S. Turner, vice-president; F. C. Hadden, secretary and manager, and F. W. Ekstrand, treasurer. The stockholders of the old company are taking up all the new stock.

Kentucky Construction Forging Ahead

The most open weather known in many years in Kentucky other than in 1918 is resulting in outdoor work going right ahead without much hindrance, and demand for brick, hollow tile and similar clay products used in the building trades is heavy. Local plants are operating at full capacity, and report an abnormal demand. Indications are that 1920 will prove up as one of the best years ever known in the clay workers line, the same being true of all building supplies.



FROM the G.M. down to the b.m. they're all interested in better belt joints. Read "Gone Again," a booklet for belting users. Its free!

CRESCENT BELT FASTENERS
"For Continuous Production"
 CRESCENT BELT FASTENER CO. 381 Fourth Avenue, New York, N. Y.

BURN ANY COAL

Never mind the quality; put it up to

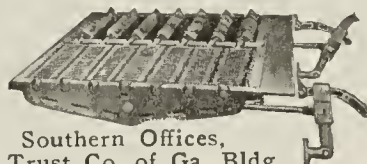
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to take care of it. Thereby they will also take care of your pocketbook.

Smooth, even surface that will not warp.

No complicated parts. Easily installed in any furnace by any mechanic. Send for descriptive literature.

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MANGANESE DIOXIDE

*Uniform Physically
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E. J. LAVINO and COMPANY
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Hill Friction Clutches
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and

Complete Power Transmission
 Machinery Equipments

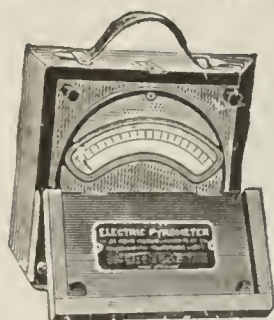
Catalogs upon Request

The Hill Clutch Co.
 Cleveland, Ohio

New York Office. 50 Church Street



Hill Friction Clutch Pulley
 Smith Type
 (Patented)



BRISTOL'S
U. S. PAT. OFFICE

Electric Pyrometers

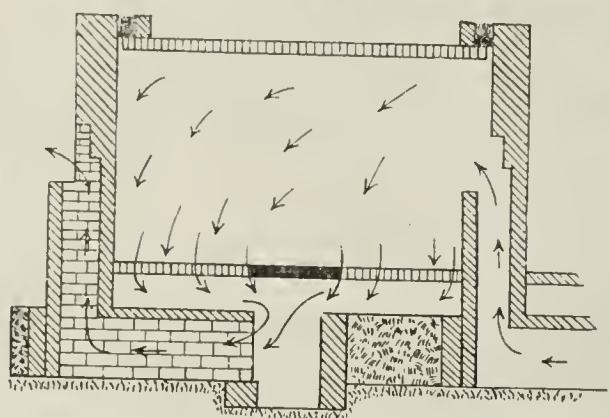
Equipped with automatic internal compensator, eliminate all cold end errors. This greatly simplifies the Pyrometer equipment and its use. The readings obtained are the actual temperatures at the fire end.

Portable Model 322, High Resistance Type with internal compensator is especially desirable for Brick Kiln temperatures. May we quote on your equipment?

WRITE FOR BULLETIN AE-275

THE BRISTOL COMPANY Waterbury, Conn.

Here It Is—



A direct fired continuous kiln in successful operation. Just walk a long and shovel in the coal like firing a boiler. Can flash the goods the same as a round down draft kiln. Nothing to it—any ordinary kiln burner can handle the kiln. Everyone knows what a successful continuous kiln means. 50% of fuel saving. This kiln is straight down draft—cheaper to construct than round kiln.

GEO. OGAN

Okabena, Minn.

They Drill Big Blast Holes

at the plant of the Kansas Buff Brick & Manufacturing Co., Buffville, Kansas.

They say:

"It has cut the labor and fuel bill about 60%, and the powder bill about 50%. It paid for itself in the first three months; it saves enough powder each year to more than pay for its initial cost."

This is interesting because it is a fact.

Write for literature on Big Blast Hole Drilling

The Sanderson Cyclone Drill Co.
1778 Broadway
New York City
Orrville, Ohio

BRODERICK & BASCOM ROPE CO.
SAINT LOUIS, MO.

Manufacturers of

B. & B. WIRE ROPE

AND

Aerial Tramways
For Economical Haulage



A28

Since January 1, there have been a number of excellent permits issued for building costing from \$5,000 up to around \$75,000, most of these being garages, plant additions, stores, etc. Residence construction will come a little later. Work started recently on wrecking buildings adjoining the Inter Southern building to permit erection of a nineteen story addition.

Prospects are for additional office building, due to the big increases in office rentals, which have jumped twenty-five to one hundred per cent. since January 1, on new leases and renewals, which has brought a protest from the Kentucky High Cost Commission, but which will probably influence a few delayed projects in going ahead. The National Bank of Kentucky is in temporary quarters, but plans to erect a handsome office building or banking building.

Car Shortage Drawback in Ky. Operations

James T. Howington, general manager of the Coral Ridge Clay Products Co., in discussing conditions, said: "The demand for brick and hollow building tile is now about fifty-fifty, and is so good that we are running like a scared rabbit. Our only drawback is car shortage, which is so serious that we are only getting about twenty per cent. of the cars we need. The plant depends entirely on cars for local as well as foreign shipments, and they have us in a mean place at the present time."

While there is a shortage of box cars this shortage is as nothing compared with the shortage of open cars, due to the fact that there is an abnormal demand for coal cars, and such cars are scattered all over the country, and not available even for coal at Kentucky mines. Kentucky operators have been making a hard fight in Washington for car supply, stating that they would have to close down entirely if the situation continued, as they are only working one or two days a week. Brick companies report that in spite of the car shortage they have managed to get all the coal they needed. Due to the heavy demand for coal, operators are careless, and much coal is below grade.

Looks for Best Year in Its Career

The P. Bannon Pipe Co., Louisville, Ky., according to P. Bannon, Jr., is looking forward to the best year in its career. Both plants are operating to capacity, and heavy deliveries are being made on some contracts and new business. Mr. Bannon reports a heavy demand and excellent outlook. A. P. McDonald, sales manager for the company, has been away for several days, having lost his mother-in-law, Mrs. Elizabeth Burns, who died suddenly. This death resulted in a collapse on the part of Mrs. McDonald.

Louisville To Build Warehouse and Sewers

Mayor Smith, of Louisville, Ky., has announced that work will begin shortly on a \$100,000 municipal warehouse on the river front to handle river freights. There will also be expenditures of about \$2,000,000 on sewers under a bond issue that passed last fall.

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The Louisville (Ky.) Fire Brick Works reports a somewhat better demand for its products, with the greatest drawback being in the matter of car supply. Labor and fuel conditions are fairly satisfactory.

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Several Louisville brick men are planning to attend the annual meeting of the Kentucky Retail Lumber Dealers' As-

sociation at the Phoenix Hotel, Lexington, Ky., on January 28 and 29, as this is always a good opportunity to get many of the smaller retailers together at low cost.

* * *

Full capacity production is reported by the Progress Pressed Brick Co., which has good orders on hand, and a steady increase in unfilled orders. A. P. Hillenbrand, Jr., claims that it will merely be a question of kiln room and how much can be produced this year.

* * *

Realty Values Soaring in Baltimore

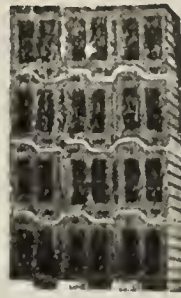
The winter season is bringing no lull in activity in construction work at Baltimore, Md., and vicinity. The coming of the New Year has brought a host of fresh enterprises, large and small, and things are booming in a way to bring utmost encouragement to those in the building trade. The demand for buildings of all kinds is at a high point, and realty values are soaring; as an idea of what is going on in this connection, business property including three buildings on St. Paul Street were sold late in the fall at a private sale for \$12,000, and at a public auction, early in January, these same structures were bid in at \$35,000, or almost a triple valuation. The same sentiment prevails in construction circles, and even tho the cost of building materials is on the upward trend, there is no hesitancy in paying the price asked—the big thing is to get the commodities, for the market is showing a weakness in ability to supply requirements on short notice. Shipments are far behind schedule, owing for the most part to the difficulty of producers to secure cars. A survey of neighboring districts, shows almost equal activity in construction work, with projects of smaller scope. At Easton there is a great demand for structures of all kinds; the local realty market is busy, and those in the building trades are trying to keep pace with the call. At Hagerstown a number of interesting projects are developing, among these being a new hotel to cost about \$500,000. The building trades are very active at Cambridge, and despite the high cost of primary materials and labor, as well as labor scarcity, the coming year looks as bright as 1919, which saw the erection of a large number of homes and business buildings. At Amcelle, the American Cellulose & Chemical Mfg. Co. of Baltimore is planning for the erection of a large plant to cost in excess of \$200,000.

Stocks of Clay Commodities Hard Pressed

The activity in construction operations at Baltimore, Md., is reflected in the busy times now being experienced in the local material market. The call for burned clay products of all kinds is very strong and available stocks of different commodities are being pressed. Common brick is a good leader in volume of demand, and the price for first grade selections is well over the \$20 mark, going to \$21 and \$21.50 for delivery on the job. Fire brick is selling for \$71, while hollow building tile and partition tile are showing up well at good average figures, ranging from \$65 for small size hollow tile to \$120 and upwards for the larger sizes. Sewer pipe, drain tile, vitrified paving block and other burned clay materials are operating under keen conditions. With possibility of adding to stocks, the situation will assume all the more encouragement to local dealers, who, for the most part, anticipate a fine season of business thruout the year.

* * *

The Chesapeake Fire Brick Co., Elkton, Md., has been or-



"LOXALL" Popular Hollow Tile

is being licensed to manufacturers in the U. S. A. and Canada. It has earned the title of "Popular Tile" because it is easy to make, lay and sell, and is liked by the Builder, the Mason and the Manufacturer.

If you are interested in this money making proposition, get in touch with us at once.

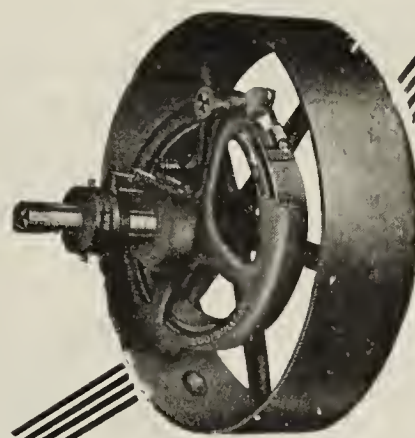
J. E. EXNER 507 Spruce Street, E.
Coffeyville, Kan.

By giving burners an accurate control over temperatures, and helping to prevent useless shoveling of coal, Price Pyrometers in many plants are saving tons of coal. These instruments have repaid their first cost long ago.

There are other important advantages in using Price Pyrometers. We will be pleased to explain these advantages to you in detail. Ask us. Catalog on request.

The Price Electric Co.
12367 Euclid Ave.
CLEVELAND OHIO

Price Pyrometers



Clutch Service

Service is a good old word often abused. But when applied to the Caldwell Friction Clutch, it carries all the force of its meaning.

Simple, strong, compact, efficient, the Caldwell Clutch transmits all the power you give it easily, dependably.

One Lever Controls It; One Screw Adjusts It. Absolutely Safe.

Send for Catalogue
W. E. CALDWELL CO.
INCORPORATED
400 E. Brandeis St., Louisville, Ky.

Caldwell
FRICTION
CLUTCHES

STANBRIK

Patented

Hollow Interlocking Brick.

A face brick and a backing all in one.

Non-continuous mortar joints Have the appearance of solid face brick. License granted to manufacturers in United States & Canada.

Edward S. Stanton
419 Erie Bldg.
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We Can Save You Time, Money and Trouble on Fire Brick

BECAUSE OF

Quality, Price and Service

Freight Rates on all R.R.'s in UNITED STATES and CANADA

A Trial Shipment Will Convince You. Write Us

ALSEY BRICK & TILE COMPANY
ALSEY, ILL.

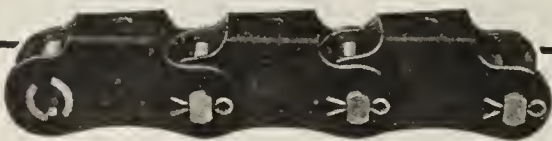
"We use the babbitting over again and do the work ourselves"

"Have been using Nonpareil Anti-Friction Metal for many years, but at first only for babbitting shafting boxes at Dry Press Brick Works. Later tried it for babbitting clay grinder rolls, where we used Bronze metal. Find that it does as well and lasts as long as the Bronze. The Bronze boxes we had to have made, and when they were worn out, had to discard what was left to the scrap pile. Now whenever boxes have to be renewed, we can use what is left of the Nonpareil metal over again and do the work ourselves." We've got some mighty interesting and valuable data for you. Write us. Trial order solicited.

THEODORE HIERTZ METAL COMPANY

8011 Alaska Avenue

ST. LOUIS, MO.



"The Chain of Double Life"

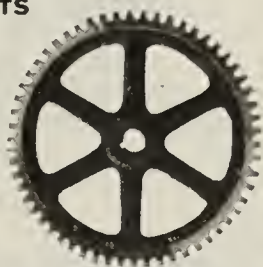
UNION STEEL CHAINS
CAST TOOTH SPROCKETS
CUT TOOTH SPROCKETS

Over 40 different sizes and types of steel chains to fit standard sprockets 1-in. pitch and larger. Special Chains up to 1,000,000 lbs. ultimate strength.

*They've Chained Many
a Plant to Prosperity*

THE UNION CHAIN & MFG. CO.
SEVILLE, OHIO

ROLLER CHAINS
BUSHING CHAINS
CONVEYOR CHAINS
ELEVATOR CHAINS
ATTACHMENT LINKS
BUCKETS
ETC. ETC.



"Produced Very Good Results"

Give yourself a chance to tell us of similar returns from Classified Advertising in "BRICK AND CLAY RECORD."

Send in your order now to

610 Federal Street, Chicago

ganized with a capital of \$200,000 to manufacture fire brick and other burned clay refractories, common brick, pottery specialties, etc. The company is headed by Herbert L. Maris, George S. Hoell and Bert B. Davis.

✕ ✕ ✕

Advocates Piece-Price Plan at Meeting

An important meeting of the Merchants' & Manufacturers' Association, Baltimore, Md., was held at the Odd Fellows' Temple on January 8. Practically all local business interests, including those in the brick and burned clay products line, mason material dealers, etc., are affiliated with this organization, and about 700 members were present. Among the important matters discussed was the labor situation and the need for increased production in various lines of trade. It was set forth by William H. Matthai, retiring president, that the bonus system for employes was a make-shift plan and that profit-sharing had met with more failures than successes; he advocated the piece-price plan wherever the industry lent itself to this form of payment. At the annual election of officers for the coming year, Key Compton was appointed president; E. Asbury Davis, W. W. Cator, F. S. Chavannes and F. J. LaMotte, vice-presidents; and George L. Irvin, treasurer.

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The Bacon Hill Clay Co., 2 East Lexington Street, Baltimore, Md., is one of the active concerns in this line in this section. The company operates three plants and has a large output of high grade materials, including fire clay, pottery clays, kaolins, as well as sand and kindred materials. Excellent shipping facilities are maintained and carloads of the various specialties are sent to all eastern districts.

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Boston Commons Still Soaring

The price of common brick in Boston, Mass., continues its upward flight, the current price for up and down brick delivered on the job being generally about \$27 per thousand. December was a very active month for brick dealers and after the usual dull holiday season January opened up with every prospect of even more activity.

Hampshire Brick Co. Buys More Land

Mary M. Prew, of Holyoke, Mass., has sold a brick yard property off Grattan Street, Holyoke, to the Hampshire Brick Co., of that city. The property consists of 43 acres of land with buildings adjoining two railroads. The revenue stamps on the documents indicated that the transfer involved about \$11,000.

Chelsea Plant Forced to Suspend Operations

The yard of the Boston Brick Co., at Chelsea, Mass., was one of the last in the immediate vicinity of Boston to suspend operations but the cold wave at New Year's time forced the closing of the manufacturing department until spring. The shipping force, however, was retained and shipments have been continued as usual.

Increase in Brick Demand in Mexico

Brick manufacturing plants in Monterey and other cities of Mexico report a big increase in building activities in that country. The demand for brick is increasing rapidly and most of the plants are now in full operation.

Adding Clay House and New Equipment

The Okabena (Minn.) Clay Works is planning to build a clay house large enough to hold clay to last thru the winter, as its clay is wet and cannot be gathered in freezing weather. The company is also installing a new machine and feeder adapted to its material and a new dryer and kilns are now under construction at the plant.

Starkville Concern Applies for Charter

Starkville (Miss.) Brick & Tile Co. recently organized by A. W. Reynolds, M. A. Saunders, J. E. Robinson, R. C. Bridges, F. L. Hogan and J. C. Ward has applied for a charter. The machinery for the plant has already been purchased and work will begin at an early date.

Bond Issue Has Big Business In Store

The St. Louis municipal bond issue, which it is said is virtually sure of success, includes a number of projects which will benefit clay products manufacturers. The \$24,025,000 issue apportions \$930,000 for the construction of small viaducts and for the elimination of grade-crossings; for park buildings, \$2,560,000; for a municipal auditorium, \$900,000; for sewers, \$2,575,000; for conversion of river Des Peres into a sewer, \$9,000,000; for river and rail terminals, \$1,700,000; for street widening and openings, \$1,250,000; for maintenance of streets, \$360,000.

Plan Vast Land Reclamation Program

Improvements calling for expenditures of more than \$4,000,000, and which will reclaim several thousand acres of land which is now unsuitable for building purposes, are named in plans recently perfected by the East Side Levee and Sanitary District Board, of St. Louis. All of the work is planned for 1920. About one-half of the amount will be expended for the construction of a conduit north of East St. Louis to change the course of Cahokia Creek, taking it west to the Mississippi River, thus eliminating its course thru East St. Louis. Another project will be the construction of a canal at the base of the bluffs, east of East St. Louis. This canal is to empty into the Mississippi River near Forest Lawn.

Whitehall Has New Incorporation

The Whitehall (Mont.) Brick & Tile Co. has been formed by J. F. Donohue, F. C. Fessenden and A. B. Schmidt, with a capitalization of \$50,000, of which \$1,000 was subscribed.

Increase in Industrial Construction in New Jersey Decidedly Encouraging

Even tho New Jersey is getting a taste of real January winter weather, there is no appreciable diminishing in building activities. The spirit that prevails thruout the important districts of the state is one of optimism, and this means that the call for new structures of all kinds will be answered. While winter is expected naturally to retard real active construction, up to the present time, this condition has not been evidenced. The threatened shortage of common brick and other basic materials is tending to spur those who have construction in mind to immediate activity, for to defer may mean a building in the fall rather than one in the spring, as desired. All important communities in the state, such as Newark, Jersey City, Hoboken and other towns in the river front section; Paterson and Passaic; Trenton and vicinity;



Conkey Dryer Cars

Performance is the best endorsement of Conkey Cars.

Individual designing and good workmanship pay in the long run.

Engineering advice and estimates will be cheerfully furnished. We welcome your inquiries.

Ask for Descriptive Booklet

H. D. Conkey & Company

Mendota, Illinois

You can get a higher price for your brick if you guarantee it will be

Scum-Proof

And you can do this with perfect safety by using

R. H. Precipitated Carbonate of Barytes

It neutralizes the salt in your clay so that it cannot appear on the surface of the brick after it gets wet.

But don't accept a substitute—insist on R. H.—the dependable brand.

Write for circular and prices.

The Roessler & Hasslacher Chemical Company

100 William St.

New York

Chicago, Ill.
Cincinnati, O.
Cleveland, O.

St. Louis, Mo.
Kansas City, Mo.
San Francisco, Cal.

Philadelphia, Pa.
Boston, Mass.
New Orleans, La.

We carry a complete line of high grade chemicals for the clay industry

-It was "No Laughing Matter"

Belt trouble never was and never will be a laughing matter. Do you know that each per cent of belt slip costs one per cent of the annual fuel bill?

In addition, there is the labor and wear cost.

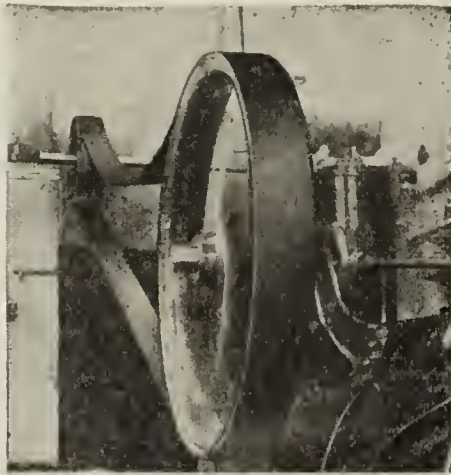
For instance a 10-in. Cling Surface treated Canvas Belt

connects a 16-in. driver and a 25-h. p. gas engine with a 48-in. driven pulley on a 12-ton ammonia refrigerator compressor, 8½-ft. between centers, in the plant of the Kervan Company, New York. They tell us: "We are more than satisfied with the results." As the photograph indicates, the belt runs nice and slack. By actual measurement, it runs 10-in. slack and doesn't slip under full load.

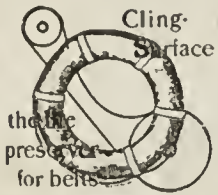
Before treating with Cling-Surface they ran this belt tight and had so much trouble with it that, as they expressed it: "It was no laughing matter." Now they treat the belt with Cling-Surface, run it slack under full load and smile the usual Cling-Surface smile. It's the same story over and over. We have told it many times in 22 years, and there is every indication that we will continue to tell the same story in the same way, for we cannot see now how Cling-Surface can be improved.

Cling-Surface is successful because, in addition to stopping slip, it prevents drying out, cracking, rotting, absorbing oil or water. It waterproofs, rejuvenates. It is not a sticky substance, but is rather a LUBRICANT that PENETRATES the belt, surrounds every fiber and preserves by lubricating and preventing internal wear.

We will send 25 or 50-lbs. on approval. If you are not satisfied, no charge will be made. A few cents' worth will save a belt worth many dollars.



A slack Cling-Surface treated belt in France.
Full information on request.



Cling-Surface Company
1029 Niagara Street
Buffalo New York

and points in South Jersey, report a continuance of operations at a good status. The call on the manufacturers and building material dealers maintains at "top" mark, and delays in getting materials to the supply yards means delays in getting it to the job. There is no let-up for housing accommodations, and the need of homes of all kinds becomes more and more of a problem; it is going to take more than a few months or a year, to bring the situation to a more promising plane, and in the meantime, the home-seeker must take what he can get. The volume of work covering new one and two-story residences, apartments, flats and the like is large, and every effort is being made to have buildings now under way ready for spring occupancy. In the matter of industrial work, a number of the principal cities show up stronger; with business good practically in every standard line of trade, increased outputs are the order of the day, and this infers new plant buildings of all kinds. At Trenton and Newark particularly, the increase in industrial construction is decidedly encouraging.

Concentrating Operations at Bordentown

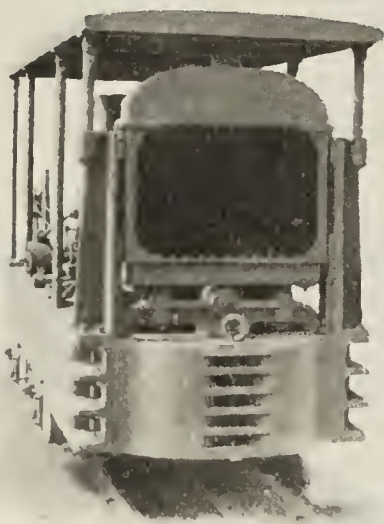
The Independent Brick Co., Trenton, N. J., is concentrating operations at its large plant at Bordentown, with production aggregating about 330,000 brick per week. It is proposed to maintain operations at this status thruout the winter. Other plants of the company, located at Trenton, Fieldsboro, and Kinkora are closed at the present time, but as all are provided with modern equipment, including steam drying systems, it is possible to inaugurate operations as soon as the demand may require. Under full operations, all of these plants have a total capacity of about 50,000,000 high grade common brick per year. This company was organized in 1906, with a board of directors composed entirely of Trenton men, and has grown to be the largest producer of brick in central and southern New Jersey. It was very active during the war period, furnishing about 20,000,000 brick for Government operations, including housing developments at Camden, N. J., and for the Emergency Fleet Corporation at Philadelphia and vicinity. The company also acts as local selling agents for an extensive line of other burned clay products, including face brick in wide variety, fire brick, hollow brick, paving brick and block, enameled brick, hollow tile, roofing tile, floor tile, etc. The company has a good stock of common brick on hand at the present time and has recently taken orders for material for the new additions to the local plants of the Keystone Pottery, American Steel & Wire Co., Ajax Rubber Co., and a number of other industrial concerns. Membership is held in the Common Brick Manufacturers' Association of America, and the emblem of this organization is stamped on every brick leaving the plants. The company is also allied with the Brick Manufacturers' Association of Eastern Pennsylvania, Southern New Jersey and Delaware. Alvin T. Dunham is secretary and treasurer.

Prices Holding Firm in New Jersey Markets

There is no change in conditions in the New Jersey markets for burned clay products and other building materials. The call for first grade commodities is strong and prices hold very firm at current levels, with tendency to rise to higher figures. Common brick is operating under the lead of demand, with prices ranging from \$21 per thousand upward, delivered on the job. At Trenton, a point of production, the quotations range between \$21 and \$22; at Paterson and thruout the Passaic district, the dealers

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3 1-2 to 12 Tons



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are asking \$23.75 and \$24 delivered, while the latter figure is also prevailing at Jersey City, Hoboken and vicinity. Newark is paying a shade over \$24 per thousand for best material, with price tendency going to \$25; very little brick is coming into this latter section, and the Hudson River district, usually the main source of supply, is now "off" for the winter, with the river closed to navigation. Face brick is moving under good call in different parts of the state; choice selections are none too easy to obtain, and shipments from the Pennsylvania districts are far behind. Present price schedules range from \$45 per thousand upwards, with average around \$50 f. o. b. cars. Fire brick is coming into more active demand, and first grade material of this nature, while hovering around the \$70 mark, threatens to reach a point of \$75, delivered. Hollow tile, drain tile and other miscellaneous burned clay products are drawing a good share of attention, with no appreciable changes in price levels.

\$500,000 Newark Housing Project Planned

The year 1920 is getting its stride in the right way at Newark, N. J. The opening weeks of the New Year show up well, putting to shame the corresponding periods for 1919. For the week ending January 17, the local building department issued permits for structures aggregating \$782,610 in valuation, as against \$20,947 for the corresponding week in 1919—this is, indeed, *some* contrast, and shows the progressive local spirit now prevailing. In connection with this record, it is interesting to note the strong sentiment and heavy demand for brick and other fireproof material in this section, for of the total noted (\$782,610), no less than \$727,650 is for structures of this permanent nature; frame buildings amount only to \$22,000. With industrial work coming forward in a prominent way, housing work is not to be left behind, and a \$500,000 project covering the erection of 75 houses for employes at the Kearny plant of the Federal Shipbuilding Co., is being planned; the site has been acquired and details of the homes are now being arranged. The Ford Motor Co., with plant on the Lincoln Highway, and the Willys Corporation, now building a new automobile works on Frelinghuysen Avenue, are considering similar housing developments.

Brick Scores High Mark in 1919 in Newark

A review of 1919 building conditions at Newark, N. J., as set forth in the January 13 issue of *Brick and Clay Record*, would not be complete without brief reference to the use of brick in connection with new construction during these twelve months. No less than 988 new brick buildings were erected in the city in this time, as against 549 frame structures and 345 terra cotta and concrete; 282 sheet metal structures were built, and 18 steel frame buildings, with the use of brick and other burned clay products in connection with these latter. If need for evidence of the popularity of brick in this district was required, it is surely found here, for even a rising market and common brick at \$24 and \$25 has had no effect in lessening the call. The totals speak for themselves—and so will those for 1920.

General Ceramic Plants Running at Capacity

The General Ceramic Co. is operating its various plants in the Raritan River section at capacity. The chemical stoneware plant at Keasbey is handling complete contracts for chemical work equipment including tanks provided with

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owned by
Jackson-
Bangor Slate
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"During the past year we have moved approximately 50,000 cu. yds. of slate shale with our ERIE Shovel. It is a wonderful machine, ideal for our work, as it is easily moved. We find it very economical and inexpensive. We are very much pleased with our investment." N. M. Male, Sec'y, JACKSON-BANGOR SLATE CO., Pen Argyl, Pa.



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I have parcel post you a #8 hot water valve that I have had 14 years. I have two boiler feed pumps. One of these pumps is in service 20 to 22 hours a day. This valve has been taken out and dressed up several times with a file and sand paper. Also I have tried out other valves in the same pumps with your valves I have never found any other valve that will hold its original size. I have always spoken highly of your valves and I do not wish to give you any more credit than is justly due you, as I have often remarked to the Cincinnati Agents that there was only one valve and that was the Jenkins.

This letter came from George W. Taylor, Chief Engineer of the Cincinnati & Columbus Traction Co. It tells a true story about Jenkins Pump Valves.

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Jenkins Valves

2099-1

stoneware, spigots, pipe, condensing coils, exhaust fans, jars, pots, etc. This works is giving employment to about 125 persons. Plant No. 2 at Metuchen is manufacturing sanitary ware, with employment aggregating about 100 operatives. Another plant at Keasbey is operating with a total of 100 persons, while the new fused silica ware plant at the same place is employing about 15 operatives.

Brick Plant Changes Hands

The Berkeley Heights Brick Co., New Providence, N. J., has been acquired by Junius Stone, now operating a plant at Port Newark, Newark, N. J. An adjoining property, occupied by the Oscar Block Chemical Co., also has been purchased, the entire holdings aggregating about 5¾ acres, with buildings and equipment, railroad siding and facilities. The new owner plans to operate the brick works, giving employment to over 200 men.

New \$200,000 Common Brick Corporation

The Paragon Brick Co. of New Jersey, Elizabeth, N. J., has been chartered with a capital of \$200,000 to manufacture common brick and other kindred burned clay products. It is proposed to operate a plant in this vicinity. The incorporators are Albert C. Bender, Clinton Gilbert, Herbert S. North, George Schmidt, Jr., and Joseph Funk, all of Elizabeth.

To Manufacture Refractories

The Southern Refractories & Kaolin Co., Trenton, N. J., has been incorporated with a capital of \$100,000 to manufacture high grade refractories, deal in clay, kaolin, feldspar and kindred materials. The incorporators are Richard M. J. Smith, Hightstown; Samuel L. Carlisle, Trenton; and John C. Geller, Philadelphia. Samuel C. Kulp, Commonwealth Building, is registered agent for the company.

New York Brick Prices Still Advancing

The threatened advance in brick prices in the New York district has developed into an actuality, and sooner than expected. Closing the week of January 10, the price, wholesale, alongside dock in cargo lots, touched \$23; the week of January 12-17, saw this jump to \$25, and hold firm at this figure. Effective January 19, dealers are quoting \$30.45 per thousand, delivered on the job—and so, New York has thirty dollar brick. The price is not stabilized at this figure either, and further advances are apparently "in the wind." This is particularly true when it is stated that barges are being sent down in an ice-bound river from the Havenstraw district, owing to the famined condition of the market; this means a costly proposition, requiring the use of tugs to convoy the barges to destination. With three barges arriving from this section during the week of the 17th, no less than four steam tugs were necessary for convoy purposes. With good inquiry for future deliveries, the local market is an interesting one from viewpoint of just what is going to happen with prices and allotments, and the brick men are watching closely.

Greater Stress Given Housing Developments

New York is continuing its building program in a big, progressive manner. There is no let-up on the part of realty interests to go ahead with their construction programs, despite the fact that prices of important materials are mount-

Rollin's Barium Carbonate

"We find that the use of Barium not only entirely eliminates the scum caused by sulphates, but deeper and richer colors result than would be expected." So writes a clay products company in Kentucky.

It is obvious to any clay products manufacturer that Barium Carbonate added to the pug mill or to the dry pan will produce brick and tile that command a higher price. It will build up more business than an inferior product which is "off color" and marred by white streaks.

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Rollin Chemical Corp.

EQUITABLE BUILDING

120 Broadway, New York City

ing and labor is again becoming restless. A review of local operations for 1919 shows that the bulk of work was concentrated on residential structures, and 1920 activities will most assuredly be along the same lines; housing demands are far from satisfied and the Brooklyn district, particularly, is bending every effort to help the situation. In 1919, a total of 15,197 residences, including dwellings, apartment houses, hotels and other buildings, were constructed in the Greater City, with aggregate valuation of \$269,767,000; 302 manufacturing and industrial buildings were erected in this time, with a total valuation of \$25,847,000; and 2,241 miscellaneous structures to the estimated amount of \$94,467,000. This shows the lay of things, and with the turn of the year, greater stress than ever is being given to housing developments. At the same time, industrial operations are not to be neglected, according to all indications, and both the Long Island City and Bronx districts report that a bright outlook is visible in this direction. In Manhattan Borough alone, the total building operations in the year just passed reached \$106,775,372 in valuation, and those in position to know say that work during 1920 will exceed this figure.

Interesting Brick Contracts

The Hay-Walker Brick Co., 52 Vanderbilt Avenue, New York, reports a good call for material, with difficulty in securing certain varieties of high grade face brick, such as Harvards and salt glazed selections. The company has recently secured a number of fine orders, including 200,000 smooth grey face brick to be used in connection with an addition to the Bowling Green Building, 11 Broadway, the Whitney Co., 101 Park Avenue, having the contract for the work; a total of 200,000 red texture brick for housing development at Elmhurst, L. I., the work being projected by Louis Fagnant, and to include 50 residences; and 60,000 rough red texture brick for a new theater building at Woodhaven, L. I., and for which Carlson & Wiseman, 226 Henry Street, Brooklyn, are architects. The company only handles the highest grade of face brick, representing a large number of important Pennsylvania producers in this section. An optimistic view is taken as to the outlook for the New Year.

New York Bricklayers Walk Out

The anticipated trouble with the bricklayers in New York has come to pass. The men have walked out in order to bring recognition to their demands for a wage schedule of \$12 a day, and many important projects are tied up. Local mason builders and others hold that this wage rate for an 8-hour day is out of proportion to the wages being paid to workers in other building trades, and are determined to fight against the increase from \$9, as established under agreement on January 1. The men have been offered \$9.50 for an 8-hour day, with overtime in ratio of that being given men in other trades. With \$30 brick and \$12 wage scale, a big handicap to active building looms in sight.

Radial Brick Chimney Concern Expands

The M. W. Kellogg Co., 90 West Street, New York, specializing in radial brick chimneys for power plants, and with works on West Side Avenue, Jersey City, N. J., has filed articles of incorporation with capital of \$15,700,000, for proposed business expansion. The incorporators are Morris W. Kellogg, Francis E. Johnson, Jr., and Harold B. Austin.

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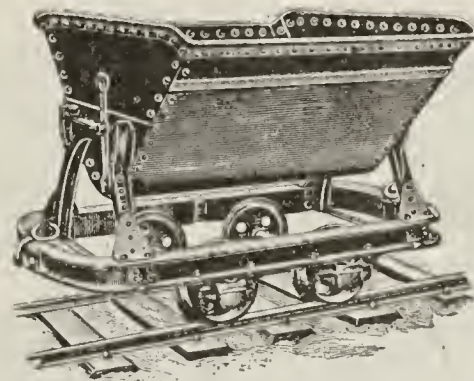
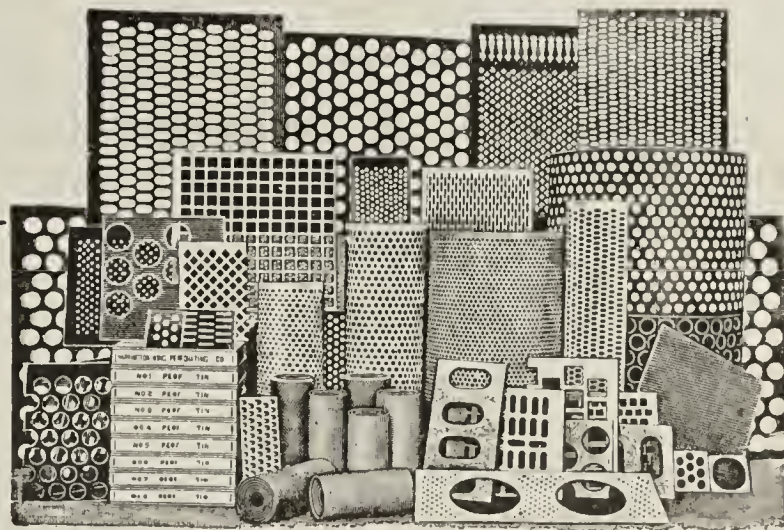
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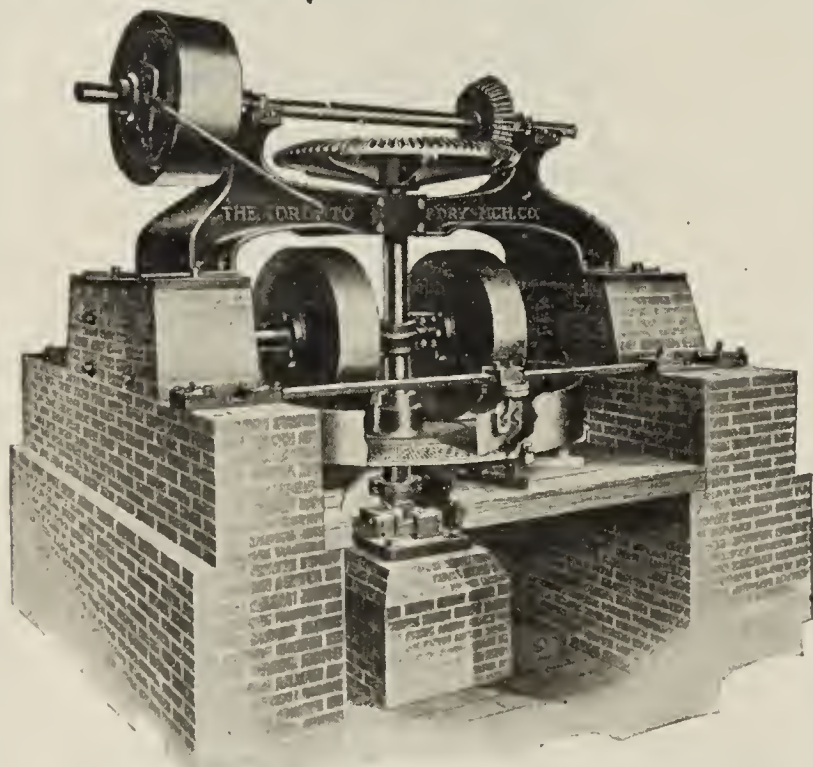
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New Brick Corporation for New York

The American Brick Corporation, New York, has been organized under New York laws with an active capital of \$50,000, to operate in this district. The incorporators are W. Y. Bogle, D. G. Carroll and P. J. Henry, 1030 Faile Street, Bronx.

Organizing Lyth Tile Corporation

W. H. Littlefield is organizing the Lyth Tile Corporation to take over the business of the Lyth Tile Co. at Angola, N. Y., manufacturers of hollow building tile and drain tile.

✻ ✻ ✻

The General Clay Products Co., Buffalo, N. Y., has been organized with capital of \$50,000 to manufacture burned clay products of various kinds, earthenware, etc. H. S. Chaffee, C. W. Clewell and C. Baldy, Buffalo, head the company.

✻ ✻ ✻

Cunningham Operations Expanding

Announcement is made of the purchase by the Cunningham Brick Co., Greensboro, N. C., of the plant of the Alley Brick Co. and purpose of the new owners to continue operation of the plant in connection with its own yards east of the city. A. W. Watson will be in charge of production at the Alley plant, while J. Harry Cunningham will continue general management of the Cunningham company's operations.

Columbus Building Reports Show 1919 Construction at High Point

A report of the Columbus building department for the past year shows that construction was at a high point during 1919. In fact there was only one previous year when the valuation of buildings erected exceeded that of 1919 and that was in 1916, the previous banner year. During the year the department issued 3,436 permits having a valuation of \$6,345,760 as compared with 1,824 permits and a valuation of \$3,301,220 in 1918. In 1916 the department issued 3,131 permits having a valuation of \$7,194,240. There were permits issued for 744 dwellings estimated to cost \$3,339,850. It was a banner year as far as the construction of dwellings is concerned. These figures do not take into account the dwellings and factories erected in the suburbs, which do not come under the jurisdiction of the building department and it is estimated that the total building for Columbus and suburbs amounted to \$10,000,000. The best month of the year was October, when 365 permits having a valuation of \$746,245 were issued.

Plan for Improvement of Building Work

First definite steps toward building construction in the Cleveland, Ohio, district, under building loan agreement supervision, will take shape within a few weeks, following a meeting at which bankers, building and loan officials, material dealers and insurance companies will be asked to underwrite the organization of a bureau for the supervision of such construction. The move will be the outcome of a general plan for the improvement of building construction of all kinds under influence of the financial arrangement in which building loans figure. The bureau will be composed of architects and building experts, formation of which has

already been approved by the Cleveland Chamber of Commerce. The bureau would approve plans, appearance, design and construction of buildings, and the classification in which the individual building is placed would regulate the amount of money to be awarded on building loan.

Queisser Interests Take on New Lines

Partial reorganization of the R. L. Queisser Co., Cleveland, Ohio, is announced. Officers will be: President, R. L. Queisser; vice-president and general manager, R. L. Queisser, Jr.; manager brick department, D. G. Oviatt; secretary, L. S. Nelson.

The Queisser interests have made arrangements with the Burton-Townsend Co., Zanesville, Ohio, to carry their several lines of face brick, which include multicolored, rug texture and old English smooth sand faced brick. A contract has just been closed with local school interests for supplying the Old English for the Warren Road school and annex at Newburg.

With the Queisser interests, as others in this district, there has been no falling off in brick demand with the prolonging of cold weather. In fact, this is the biggest winter in the history of the trade, and is expected to be followed by the biggest spring demand, in the opinion of Mr. Queisser.

These Two Plants See No Let-up in Demand

At the Hydraulic-Press Brick Co.'s Cleveland branch, indications are that all the brick on hand will be sold to meet the coming season's needs, and that the demand will continue to exceed the supply. Manufacturing by the Hydraulic-Press has been continued right thru the severe weather, with the result that January is expected to make a showing of 700,000 brick.

Brick plants of the Cleveland (Ohio) Builders Supply & Brick Co. are being operated as far as weather and coal shortage will permit. Orders already on hand to meet current and spring season needs show that the biggest business for the time of year is coming in.

State Plant to Install New Machinery

Chairman Riddle, of the Ohio Board of Administration, which controls all of the state institutions of Ohio, announced recently that the purchase of the brick plant at Junction City, Ohio, which has been operated under lease for about five years, has been completed. The state now has complete title to the property. The plant is gradually being increased in capacity and it is planned to have an output of 100,000 pavers and building blocks daily. Convict labor from the Ohio penitentiary is used to operate the plant. William Archart is superintendent. Among the improvements contemplated is the installation of additional drying machinery, and the erection of more kilns.

Erecting Another Continuous Kiln

The Hocking Valley Products Co., which operates a large face brick plant at Greendale, has started the erection of another continuous kiln with 18 chambers which will increase the capacity of the plant about 40 per cent. The plant has always had brick making capacity ahead of the burning capacity and now it is proposed to remedy that condition. Robert Taylor, Jr., resident manager of the company, reports a good demand for face brick and the plant is being operated

WATERBURY WIRE ROPE

WATERBURY WIRE ROPE
POWER TRANSMITTED BY WIRE ROPE

A table showing the proper relation between the rope and wheels used in transmitting power by means of wire rope, and approximately the amount of power that may be thus transmitted. The calculations are based upon a rope of the 6 strand, 7 wires type.

TABLE FOR INCLINED PLANES

Use of wire rope on slopes and inclined planes, etc., by which the strain produced by the weight of the load is reduced.

The table gives the strain on a rope due to a load of one ton of 2,000 pounds, at any angle for incline from 0° to 90°. An additional allowance for the weight of the rope will have to be made.

Example: For a load of 10 tons (20,000 lbs.) on a slope of 30° the strain on the rope will be 10,000 lbs. (20,000 lbs. x 0.5) plus the weight of the rope.

100 x strain = 1000 pounds

Inclination	Strain on rope (lbs.)	Strain on rope (tons)
0°	2000	1.00
10°	1990	0.995
20°	1960	0.980
30°	1900	0.950
40°	1800	0.900
50°	1650	0.825
60°	1400	0.700
70°	1050	0.525
80°	600	0.300
90°	0	0.000

All that a rope can do

can be quickly found in the Waterbury Rope Handbook, a cloth-bound 220-page manual on rope of every description. It is filled with construction details, illustrations, tables and more rope data than you could dig out of a half dozen books—and some information that is nowhere else. A copy of this handy reference manual will be sent free on request to rope users and buyers.

Waterbury wire rope, like every other Waterbury rope, always comes up to specification. Grade for grade there is no higher quality rope. The more you know about rope the less need be said about any rope made by.

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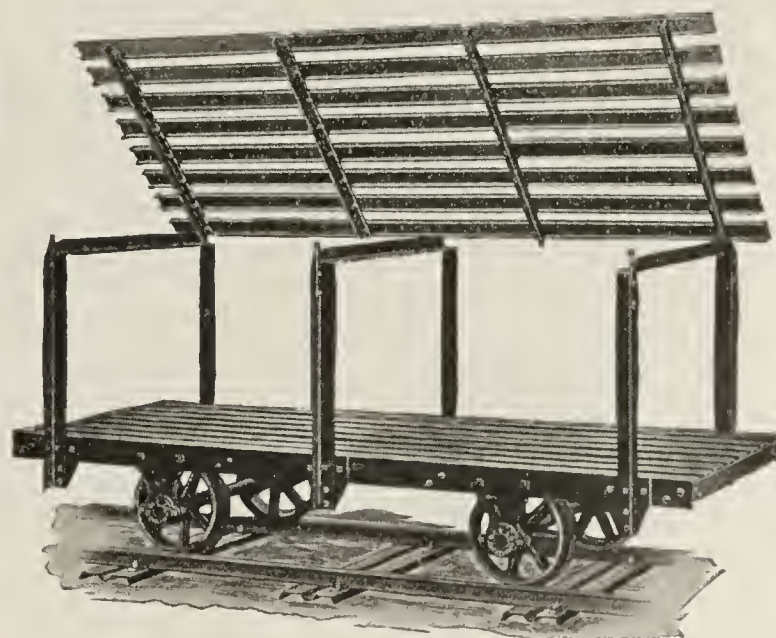
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The Robinson—LAKEWOOD LINE—
Dryer Cars; correctly designed, correctly
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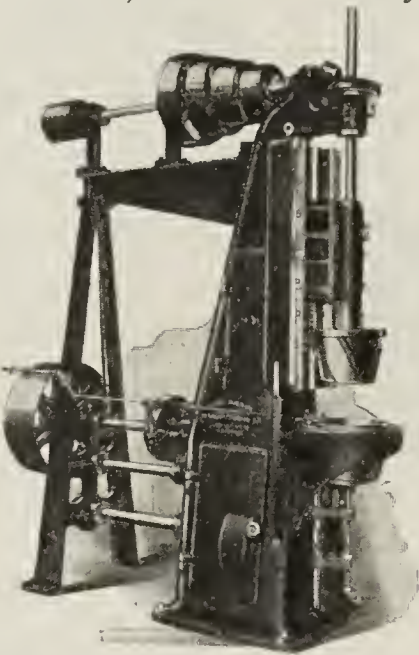
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THERE is big money in the manufacture of Flower Pots, Stone Ware, Sleeves, Nozzles, Insulators, etc.—if you have the right kind of moulding machine.

One manufacturer who purchased a Baird Pottery Machine about eight years ago, and another machine two years later, reports that both were "a success from the start."

"The nicest part of this business is that all these pots are uniform and true in size, each one is exactly the same weight, which makes it much more convenient in stacking and burning the pots than it would be if these pots were made on the older style machines or made by hand."

The Baird Machine has speed, can be operated by any ordinary workman, and costs little in power, oil, and grease to operate. Let us tell you what other manufacturers in your line of business are doing to add to their profit with one or more of these machines.



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with a fairly good force of workmen. The trouble is in getting skilled brickmakers, which are quite scarce.

Gaddis-Harrison Increases Capital

The Gaddis-Harrison Brick Co., of Columbus, Ohio, has filed papers increasing its authorized capital from \$50,000 to \$100,000. The concern is a jobbing company with offices in the Brunson Building. Mr. Harrison, of the company, is not yet ready to make an announcement as to its future plans. Mr. Harrison reports a good demand for face brick and the only thing that is holding back business is congestion on the railroads and car shortage to prevent shipment.

Result of Columbus Exchange Elections

Officers have been elected by the Columbus Builders' and Traders' Exchange for the coming year as follows: George Frankenberg, president; E. H. Latham, vice-president; R. M. Miller, Thomas Weiser and David Lehman, members of the board of directors. It was the first time that all of one ticket won out, as the successful candidates were all on the "Mutts" ticket as opposed to the "Jeffs" ticket. A cabaret performance, buffet luncheon and other entertainment featured the meeting when the result of the election was announced.

Equipment Being Added to Columbus Plant

The Shale Brick Co., of Columbus, chartered recently with a capital of \$10,000, has completed its organization by the election of William Rindfoos, president; W. C. Gager, vice-president; Walter T. Brown, secretary; John W. Wilson, treasurer and general manager, and S. A. Booker, superintendent. The concern has taken over the plant of the Hallwood Brick & Tile Co. A large steam shovel will be added to the equipment, in addition to a 20-chamber kiln, mentioned in the New Year's issue of *Brick and Clay Record*.

Bricklayers Asking \$11 for 8-Hour Day

The Bricklayers' Union of Columbus, Ohio, has filed demands with the employers asking for \$11 a day for eight hours' work. The present scale is \$1 per hour and now it is proposed to advance \$3 on the day. The union demands that the new scale become effective May 1. At that time the carpenters' scale is increased from 75 to 90 cents per hour. Hod carriers are demanding an increase from 65 to 80 cents per hour after May 1.

Common Brick Supply Below Demand

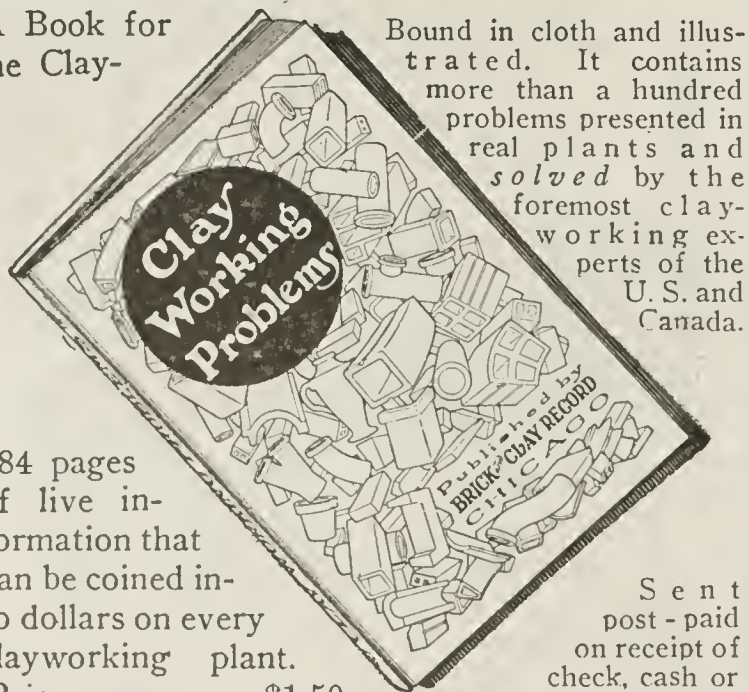
Common brick in Columbus and Central Ohio territory are in excellent demand and in fact the supply is far below the demand. Manufacturing facilities are being increased, but nevertheless there is still a shortage and that condition is expected to maintain for some time. Wire-cut common brick are selling at \$20 f. o. b. Columbus or about \$22.50 delivered on the job. Mud brick sell around \$18 delivered on the job.

Built More Garages Than Dwellings in 1919

A study of the Columbus building report for the year 1919 shows that there were more garages erected within the corporate limits of the city than dwellings. But on the other hand the cost of the 744 dwellings erected was \$3,339,-850 compared with the 1,337 garages which cost \$442,780. Alterations and additions authorized during the year totaled \$1,206,950 for which 1,013 permits were issued.

101 Questions Answered

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CHICAGO

Bright Prospects for Ohio Face Brick

Emmet Howard, head of the Columbus (Ohio) Fire & Face Brick Co. has returned from a business trip to Pittsburgh, where he looked over the brick situation. The concern has the output of the Webster Brick Co., at South Webster, Ohio, and Mr. Howard has made several visits to the plant recently. He reports a good demand for face brick with prospects for the coming spring exceedingly bright.

Lima Brick Co. Capitalized at \$24,000

Papers have been filed with the secretary of state increasing the authorized capital of the Lima (Ohio) Brick Co. from \$12,000 to \$24,000. The concern operates a common brick plant.

Kusa Smelter to Make Brick

The Kusa smelter is building a five-kiln brick plant in connection with the building of its smelter, and will manufacture brick at an early date at Henryetta, Okla.

Sand Springs Brick Plant Open

With a capacity of 40,000 brick a day, the Mid-Continent Brick & Tile Co., Tulsa, Okla. began operations north of Sand Springs Lake. A. Maile is president, J. H. Sessing, vice-president and general manager, Fred J. Welsh, treasurer and P. H. Maroney, secretary of the company.

Augusta Plant Incorporates at \$25,000

Augusta Face Brick Co., of North Augusta, S. Car., was commissioned with a proposed capital stock of \$25,000. The petitioners are J. L. Hankinson, J. L. Barksdale, C. N. Churchill and Hampton Hankinson.

Philadelphia Housing Needs Being Filled

Now that Philadelphia has produced a record year in building for the past twelve months, this is no reason to stop, and the turn of the year shows the same progressive operations that characterized the last half of 1919. Real winter weather is having no noticeable effect in the curtailing of work, and plans are going forward in a way to please the building interests of the Quaker City. Housing activities are coming in for a broad share of attention, and numerous brick residences are projected for the early months of the New Year. These not only embrace one and two-family homes, but apartment houses and other structures. Industrially, also, things are going forward in fine and substantial fashion. Since the first of the year a number of enterprises of this character has come to light, aggregating close to \$1,000,000 in valuation. Other features of local construction include new office buildings, one of which of brick and stone construction will be erected in South Penn Square by the Finance Co., at an estimated cost of \$1,500,000; and a few new school buildings are also planned.

Face Brick Scarce in Philadelphia Market

The Philadelphia, Pa., building material market is an active one, and this not only in the matter of immediate demand but in regard to inquiries for future work. The call for common brick holds firm, with prices averaging at \$22 and \$23 per thousand for good grade material. Face brick is not to be found in any very plentiful supply and selections for prompt delivery are reduced. Kittanning specimens are selling for \$47 and \$48 per thousand in carload loads, f. o. b. cars; Ironspots are quoted at \$47 per thousand on the same

"HURRICANE"

AUTOMATIC

Stove Rooms and Mangles for Clay and Porcelain

are designed for individual plants.

Individually designed dryers result in greater uniformity of drying and greater uniformity of shrinkage—better ware.

They reduce floor space required. They reduce the number of moulds, labor, etc., from 50% to 75%. An equally large reduction in drying time.



Delivery End of Automatic Stove Room,
Buffalo Pottery, Buffalo, N. Y.

There are many other advantages of our installations which we would like to have an opportunity of explaining. Let our engineering department help you with advice and suggestions. No obligation.

Illustrated Circulars will be sent you on request

Automatic and Truck Systems

The Philadelphia Drying Machinery Co.

Stokley St., above Westmoreland

Philadelphia, Pa.

"The S S S Special" Automatic Soft Mud Brick Machine



WE manufacture the most complete line of Soft Mud Brick Machinery in the world and can meet the requirements of any size yard, from the smallest to the largest. Let us quote you on your new machinery.

The Arnold-Creager Co.
New London, Ohio

basis, while textured varieties can be purchased around \$39 and \$40. Fire brick holds around the \$70 mark, and there is an active demand for the material. Hollow tile partition, as well as exterior tile are holding their own in matter of price and call; 4 x 12 x 12 partition tile is selling at \$111.25, delivered, while 8 x 12 x 12 is quoted at \$208.50. As regards exterior tile, 6 x 12 x 12 in. is priced at \$194.60, delivered, and 12 x 12 x 12 at \$361 in carload lots.

Pittsburgh Operations Getting Underway

Announcement by the Mellon banking interests in Pittsburgh, Pa., that they intend to start at once upon the construction of a three-story bank building to cost \$2,000,000 is taken generally as the beginning of the important improvements in Pittsburgh which have been held up during the war. A start has already been made upon the South Hills tunnel, which is to give access from the downtown section of the city to a large residential section to the south, and which will cost just a little less than \$5,000,000. Not far from the southern end of the new tunnel, the Mt. Oliver Ice Co. has just purchased \$20,000 worth of ground for the erection of a large ice plant and an ice storage plant to be used in supplying the South Hills territory.

Brick Men Bidding for this Contract

George A. Fuller Co., of New York, has been given the contract for the erection of the \$2,000,000 plant of the Libby-Owen Sheet Glass Co., at Charleston, W. Va. Manufacturers in the Western Pennsylvania districts are bidding for the brick contracts for this construction. It is expected that between \$3,000,000 and \$4,000,000 will be expended in the new plant before its completion, altho the portion under contract is put at \$2,000,000.

Car Supply Only 12 Per Cent. Normal

Difficulties in the car supply are proving the most serious obstacle to the brick trade in the Western Pennsylvania district. The car supply, during early January has been running about 10 or 12 per cent. of normal, and no argument avails to increase this. The plants are running at about 60 per cent. of capacity, in this territory, and are stocking their brick until they get the transportation facilities to move them to destinations.

✻ ✻ ✻

The Gettysburg (Pa.) Brick Co. has been curtailing operations at its plant during the past six weeks owing to lack of fuel. The plant has a considerable volume of orders on hand, and plans to resume normal output at the earliest possible date.

✻ ✻ ✻

The Lancaster (Pa.) Brick Co. has been organized with a capital of \$200,000, to operate a local brick manufacturing plant. F. L. Suter is treasurer.

✻ ✻ ✻

A new organization to be known as the New Hope Brick Co., has been organized at Lock Haven, Pa., with a nominal capital of \$5,000 to operate a local brick yard. O. S. Kelsey, Flemington, Pa., heads the company.

✻ ✻ ✻

Tennessee Building Permits Gain Big Total

Memphis, while trebling its building figures in 1919 over the year 1918, fell to second place in the South, Atlanta com-

ing first. The total building permits in Memphis for 1919 were 1,882 with a value of \$7,502,497. Atlanta went above the \$10,000,000 mark. Nashville permits totaled 4,225 in 1919, with a value of \$2,598,659. Chattanooga permits in 1919 totaled 2,161, with a value of \$1,561,488. Knoxville in 1919 issued 1,077 permits, with valuations of \$2,283,287. All of these Tennessee points are anticipating large residential and business construction in brick and other materials this year, as they fell behind on residence work.

A 1920 Incorporation Already Active

Among the new incorporations of 1920, and already actively in the field as a new firm, is the F. R. Thomas Clay Products Co., 301-302 Central State National Bank, of Memphis, Tenn. They will handle straight and mixed cars from the factory in wholesale trade. Features of the business will be chimney tops, fire brick, building brick, flue lining, grate backs, fire clay, septic tanks, sewer pipe, stove pipe and wall coping. In the Memphis territory they will represent the Cannelton Clay Products Co.; Cannelton Sewer Pipe Co.; Coral Ridge Clay Products Co.; Louisville Fire Brick Works, and other concerns.

Brick School Additions Scheduled

An extensive system of school additions, including several new buildings, most of which will be of brick, are included in the 1920 program of the Memphis City School administration.

Henderson County, Tenn., has appropriated an additional \$10,000 to the \$50,000 previously appropriated toward the erection of a modern high school building here. It is understood that this structure is to be of brick.

Incorporated With Capital of \$600,000

The Thurber Earthen Products Co. has been incorporated at Thurber, Tex., with a capital stock of \$600,000. The company plans to build and operate one of the largest plants for the manufacture of clay products in the United States, it is announced. It is a subsidiary of the Texas & Pacific Coal & Oil Co., of Thurber and New York. The incorporators are: John R. Penn, Edgar J. Marston, W. J. Ochiltree and others.

Promoting Large Brick Plant for Texas

Thomas Baker, of Nacogdoches, Tex., and associates are promoting the construction at that place of a large brick manufacturing plant. It is stated that large deposits of clay suitable for making brick are found adjacent to the town.

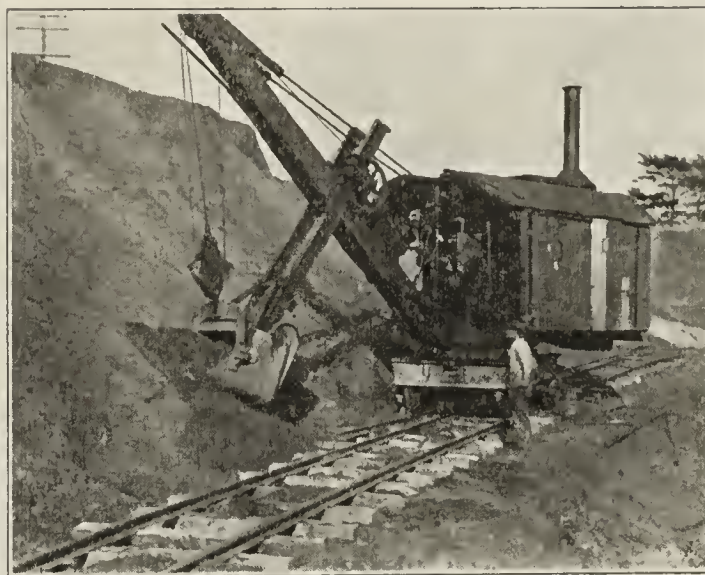
Hold Salesmen Conference in Rutland

The semi-annual conference of traveling representatives of the Rutland Fire Clay Co. was held at the Bardwell Hotel at Rutland, Vt., New Year's week. A. W. Perkins, president of the company, John C. Flynn, the manager, and C. A. Perkins, the company's chemist, attended the conference and discussed business matters with the "drummers." Reports indicated that 1919 was a banner year for the company, business being almost double that of previous years, and plans were made for an active business campaign during 1920. The week's program included visits to the company's plants at Rutland and in the mountains. Salesmen attending the meeting included: E. J. Vose, Saratoga Springs, N. Y.; G. H. Woods, Boston; M. L. Beardsley, P. G. Whitcomb and F. A. McCarthy, Rutland; A. H. Cole, Springfield, Mass.; G. S.

BUCYRUS

"We cannot tell you just how much we have saved by using the steam shovel, but we know that but for it, we would be out of business."

Chas. A. Bloomfield.
Treas. and Mgr.



The Bloomfield Clay Co. of Metuchen, N. J.,
has been using an 18-B

BUCYRUS REVOLVING SHOVEL

for the past six years. During this period it has been used for stripping 35 feet of overburden from the clay deposits and at times for mining the clay and building a spur railroad. It has often loaded as high as 1500 cubic yards into Koppel cars in 10 hours. Its operation has been steady and reliable. Few repairs have been required.

The above statement of Mr. C. A. Bloomfield tells the story.

Let our representative look over your property and advise what a BUCYRUS can save you.

14-B— $\frac{3}{4}$ yd. (level full) $\frac{3}{4}$ yd. (full)	18-B— $\frac{3}{4}$ yd. (level full) 1 yd. (full)
150-B— $2\frac{1}{2}$ yd. (level full) $2\frac{3}{4}$ yd. (full)	175-B— $3\frac{1}{2}$ yd. (level full) $4\frac{1}{4}$ yd. (full)
35-B— $1\frac{1}{2}$ yd. (level full) $1\frac{3}{4}$ yd. (full)	225-B—6 yd. (level full) 7 yd. (full)

Also all sizes of standard railroad type shovels and dragline excavators.

BUCYRUS COMPANY

SOUTH MILWAUKEE, WIS.

New York
Denver
Chicago

Birmingham
Portland, Ore.
Cleveland

Minneapolis
San Francisco
Salt Lake City

(183)



YOUR LAMPS COST MONEY PROTECT THEM

Thousands of lamps are broken every year. The seemingly small loss of a single lamp may not be noticed but the annual cost represents a considerable percentage of the overhead expense. Every time a lamp is broken your cost of production is increased.

Why not safeguard your lamps with

FLEXCO-LOK EXPANDED STEEL LAMP GUARDS

Flexco-Lok Lamp guards are made of expanded steel, well coated with tin. They are easily adjusted and **LOCKED** with a key. This prevents theft or unauthorized removal. The shape of the guard is scientifically designed to resist any shock to which it is subjected thereby safeguarding the lamp from breakage.

Flexco-Lok Steel Lamp Guards cost less than a single broken lamp. You will effect a real economy by installing them throughout your factory.



Flexible Steel Lacing Co.,

Dept. LG32

Sole Manufacturers

522 So. Clinton St.

Chicago, Ill.

COUPON

The Flexible Steel Lacing Co.
Dept. LG32, 522 So. Clinton St., Chicago, U. S. A.

Gentlemen: Attached hereto is our regular business letterhead. Please send us Free for service test one Flexco-Lok Guard for 40 Watt Lamp; and information concerning the Flexco-Lok Reflector Guard.

Also send me folder describing Alligator Steel Lacing—the hinge joint requiring only a hammer for application. Kind of lamp socket.....(If weatherproof, give diameter above shade holder rings.)

Firm Name.....

Per

Address

Kellogg, New York; G. L. Pierce, Boston; C. W. Moulton, Portland, Me.; W. S. McCormick, Trenton, N. J.; H. E. Wombold, Indianapolis; H. G. Bruhl, Ridgefield, N. J.; J. B. Nye, Schenectady, N. Y.; H. J. Murphy, Westbrook, Me.; F. S. Nagle, Wilkesbarre, Pa.; and J. F. Parker, Des Moines, Iowa. James M. Foley, manager of the Chicago office of the concern, and E. M. Buck, manager of the fire brick plant at Northeast, Md., were not able to be present.

\$500,000 Housing Corporation Formed

The housing conditions in and around Charleston, W. Va., have become so acute that a corporation, with a capital of \$500,000, has been formed by the Chambers of Commerce of Charleston and St. Albans to provide homes for 1,500 additional Federal employees.

Steel Situation Needs Observation

Altho we are looking forward to the year 1920 with great promise and can see a very active and prosperous year for the clay products manufacturers, we must not fail to look out for little traps here and there that are bound to cause trouble if we are not careful to avoid them. Industry is so dependent these days that there are any number of factors that may hold it back and hinder it from reaping full harvest from conditions ordinarily conducive to a very good business.

We don't want to be the somebody who is "always taking the joy out of life," yet, we cannot help but feel justified in giving this caution, "A stitch in time saves nine." Some of the important items upon which the smooth running of the clay industry hinges are: the railroads, fuel supply, labor, market and condition of the other industries in the building field upon which clay manufacturers are dependent to a large extent; for without mortar no brick can be laid.

Most of the above named factors are uncontrollable but preparations can be made in nearly every case so that their influence is not so greatly felt. Iron and steel industry affects the clay products manufacturing industry in at least two ways. The lack or shortage of steel usually holds up building and hence interferes seriously with construction work in which clay products find use. Furthermore, the shortage of steel makes it hard to obtain new and necessary equipment and repair parts for machinery that breaks down and hence holds up production.

That the steel industry is already in a precarious condition is shown by an editorial which appeared in a recent issue of the "Iron Trade Review." It states: "Having experienced directly the acute shortage of early material, buyers are showing a growing anxiety to protect themselves on their future requirements of iron and steel. As a result they are bidding up prices steadily upon themselves and the market has resolved itself wholly into a sellers' affair. With its obligations expanded over 4,000,000 tons during the past seven months and its production below normal, the steadying influence of the steel corporation's minimum price policy rapidly is losing effect. Scarcely an independent mill at present is quoting less than \$2 to \$15 per ton above the schedules of the largest interest and this spread is growing each week.

"Production however generally continues unsatisfactory and the volume of material offered for sale in any direction is limited. On the present basis of output, most of the more important producers are choked with business for periods varying from three to twelve months."

A word to the wise is sufficient. Anticipate your needs in machinery and repair parts now.

MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories
and Detailed Announcements that Our Ad-
vertisers Believe Will Interest Our Readers

Engineering Service

It will be of considerable interest to the readers of *Brick and Clay Record* to know that Trautwein Dryer & Engineering Co. have removed their offices to 608 South Dearborn Street, Chicago, Ill. This company during its several years service in this industry has erected some of the most modern and successful clay plants in operation today, and it really needs no introduction to clay-products plant managers.

The company is prepared to take complete charge of the engineering work and the erection of new plants and also the remodeling of old plants, with a view to developing the highest possible efficiency at the lowest cost.

* * *

The New Duplex Limited

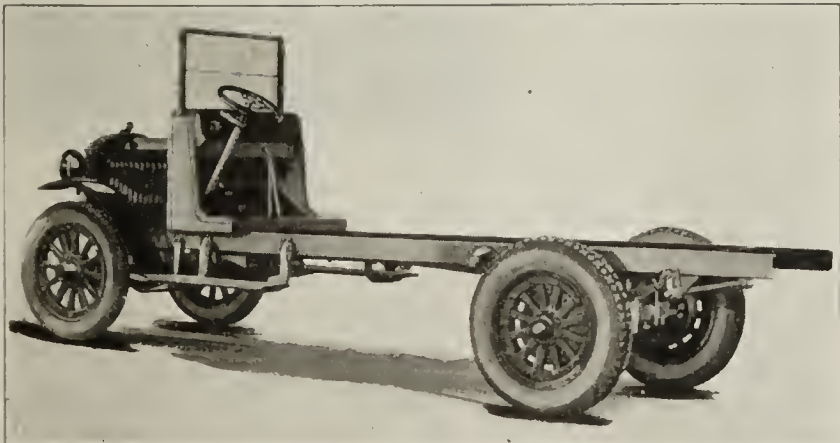
Convinced in their own minds and supported by insistent requests of dealers and users alike, the Duplex Truck Co., Lansing, Michigan, after three years of careful and far-reaching investigation determined to meet the great need in the truck field for a medium capacity continuous service model, capable of running at high rates of speed. The thought uppermost was that a construction intended for slow, heavy hauling will not stand up under the extra strains imposed by fast driving.

To properly serve this class of truck user the Duplex Company set about to design and build such a model. The result is what is known as the new medium capacity, pneumatic equipped, Duplex Limited. Only specifications that contribute to speed and extra strength to stand such speed have been selected.

Power is supplied thru a 4"x5 $\frac{1}{4}$ " motor having an S. A. E. rating of 25.6 horsepower. This motor is a modified class "B" design so successfully used in government work. At normal speeds the motor develops more power than its rating would indicate and its construction permits of high speeds without danger of injury. On high the Duplex Limited will travel at from 5 to 30 miles per hour.

The Duplex Co. contends that truck speeds should be secured thru motor power and not thru a low gear ratio. This accounts for the adoption of a motor which at first glance, appears to be too large for a truck of medium capacity.

All the essentials necessary in truck design to guarantee speed, safety and economy are found in the new Duplex Limited—surplus motor power—pneumatic tires—a high gear ratio. Everything that will contribute to making this a strictly high class, steady service truck has been included by the manufacturers. Electric lighting and starting equipment is a part of the Duplex Limited. Operators of Duplex

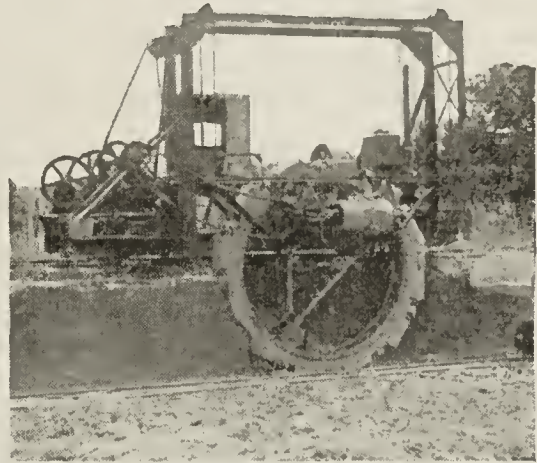


The New Duplex Limited.

Buckeye

Traction Digger

As we couldn't better the perfect mixing, we improved the Buckeye construction to handle increased capacity and to lower your digging costs.



You want these Advantages

The Buckeye Digger costs less in first cost than any other types of traction diggers.

Operating and maintenance costs are surprisingly low. It operates in pits that are too soft for heavier type machines.

It gives a better mix than any other practical clay digging machine.

That these advantages are of practical benefit to clay manufacturers is proved by the fact that more and more Buckeye Traction Diggers are being used in clay and shale pits than ever before.

Here are a few users:

Crossman Company
New York, N. Y.

Haeger Brick & Tile Co.
Aurora, Ill.

Edgerton Clay Products Co.
Edgerton, Ind.

May we send you data? Ask for a copy of "Digging Clay for Profit."

The Buckeye Traction Ditcher Co.
Findlay, Ohio



It isn't the price you pay for belting that determines its cost, it is the work it performs—the service it gives—that is the determining factor.

STANLEY BELTING has long life woven into it, a life that only the best of American cotton and expert workmanship can produce.

Its special weave—
 extreme flexibility—
 non-slippage—
 absence of stretch—
 special selvage—
 impregnation—
 all contribute to a most generous service, whether it be on a pug mill, brickmaking machine or on a clay conveyor.

|||||

This service extends over the entire United States.

|||||

Stanley Belting Corporation

34 South Clinton Street
 CHICAGO, ILL.

4-Wheel Drive Trucks, know that the name Duplex stands only for trucks of the highest type, that in their field they are in a class by themselves.

✻ ✻ ✻

Erie Calendar for 1920

It advertises Erie shovels every day of the year, as each page of the calendar shows numerous views of their shovels doing all classes of digging—and with each is the testimonial of the user. The Ball Engine Co., Erie, Pa., manufacturers of this shovel, state that they will be glad to send one of the calendars to clay products concerns. It's attractive, too.

✻ ✻ ✻

New Westinghouse District Manager for New York

Mr. Arthur Elliot Allen has been appointed district manager at New York for the Westinghouse Electric & Manufacturing Co. to succeed Mr. Edward D. Kilburn, who has been elected vice-president and general manager of the Westinghouse Electric International Co.

Mr. Allen is a native of Toronto, Canada, and received his education in England and also in this country. In June, 1902, he entered the employ of the Westinghouse Electric & Manufacturing Co. at its Newark works, subsequently being placed in charge of the test department, where he remained until 1910.

In that year Mr. Allen was loaned by the management of the company to the International Electric Protection Co., for which company he acted as chief engineer.

In 1911 Mr. Allen, having completed that temporary work, returned to the employ of the Westinghouse company, being assigned to the supply division of the New York sales office.

On December 1, 1915, Mr. Allen was appointed manager of the supply division of the New York office, which position he retained until he answered the call of his country and joined the Canadian Overseas Forces as a private in October, 1917. Later he was sent to the Canadian officers' training camp, was commissioned a second lieutenant in the Royal Flying Corps, and went overseas as a technical officer.

Overseas, Lieutenant Allen was stationed in England at the Salisbury Plains School for Navigation and Bomb Dropping. This school was by far the largest one operated by the Royal Air Forces and Lieutenant Allen was charged with the maintenance of all its engines and planes. In September, 1918, he was attached to the "Bombing Berlin" squadron which was detailed to drop

bombs on Berlin in retaliation for the bombing of English towns. The signing of the armistice, however, ended the war before this squadron arrived at the front.

After being honorably discharged from the army Mr. Allen returned to the New York office of the Westinghouse company as executive assistant to the manager, from which position he was promoted to manager, as above stated.



Arthur Elliot Allen, New York District Manager for Westinghouse.

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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To

decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

The Car Shortage Spectre

JUST as we are about to lean back in our easy chair and dreamily meditate over the prospects for rapidly acquiring prosperity, affluence and power as clay products manufacturers, some one rudely disturbs our peaceful repose by telling us that the plant has no cars in which to ship those promising orders!

THE SITUATION IS EVIDENT

It would be a waste of words to prove to the rank and file of clay workers that there is a serious shortage of transportation equipment. Misery, however, loves company. For the sake of the comfort that it might give to some, we are presenting herewith, a few of the calls for help which have reached this office.

"Have had no empty box cars since January 22 until today (February 6) when we got **one**. The Pere Marquette Railroad claims it is ninety per cent. short. In other words, it has one car for every ten ordered," writes a Michigan manufacturer.

Another says: "We are using gondolas, otherwise we would be out of business."

In answer to a question as to whether he was having any difficulty with car shortage, one manufacturer answers, "Much." He was then asked what percentage of cars he succeeded in getting, and the answer was, "Two per cent."

Another manufacturer since December 1, has received only two per cent. of the box cars ordered, but he writes, "They have given us a few coal racks which would make a total of about fifteen per cent."

"Worst ever," is the way an Indiana brick maker characterizes the present car shortage difficulty, and at that he is "highly favored" by receiving thirty per cent. of the cars he ordered!

An Indiana manufacturer who has received only twenty per cent. of cars ordered to date this year says, "Unless the car supply improves

many plants will have to close down within sixty to ninety days."

This is the situation, now what is the cause?

WHY DO PRESENT CONDITIONS EXIST?

Our attention has been called to the fact that during the past five years the tonnage offered the transportation companies for movement has increased seventy per cent., whereas, the increase in cars has been about one and one-half per cent., and this fact means that the car shortage we are now facing is one that must extend thruout the year if business maintains its present stride.

The railroad administration, it seems, has purchased only one hundred thousand new cars during the period of railroad control, and during that time the old equipment destroyed has probably exceeded two hundred thousand, leaving the railroads with one hundred thousand less cars at the present time than when they were taken over by the government.

Furthermore, there is no doubt but that much of the rolling stock now possessed by the roads is in sad need of repair. This is due to two causes. First, the way in which they have been pushed to full capacity for three years without the proper facilities for repairs, and second, because of the shortage of car repair men that was aggravated by a strike last summer.

In addition to the large number of bad order cars, many manufacturers complain of the utter lack of proper motive power on the railroads serving their plants. In this connection, it is interesting to note that during the week ending December 27, 1919, only eighteen locomotives were shipped to the roads, thirteen being built by the American Locomotive Works, two by the Lima Locomotive Corporation, and three by the Baldwin Locomotive Works.

CONCERNING A REMEDY

Out of the maze of suggestions concerning remedies which it is natural would be offered in a crisis so widespread and far reaching as the present car shortage, we believe that the

prospective return of the railroads to private ownership on March 1 next is the sun of golden promise on the clay products manufacturers' transportation horizon. Almost without exception business men in all lines of industry feel that this will be the first of a series of steps looking forward toward the restoration of normal conditions in the business world in America following the war. The taking over of the railroads by the government was a war measure pure and simple, and now that the war has long since ended, the roads ought to go back to private ownership forthwith.

"We believe that turning the roads back to the original owners will help much," writes an Indiana brick manufacturer, "as there is too much of a tendency at present to 'pass the buck.' Entire train loads of empties are seen passing thru here. Where they are going we don't know and can find out nothing."

In this connection, an Illinois clay worker writes, "Do away with government control as at present used and let a little competition for business be an incentive for service. No one at present seems to be responsible or cares whether cars are furnished or not. Their pay goes on just the same whether the roads handle one car or a hundred. In order to get service in any business some one must be held directly responsible for the success or failure of that business."

PURCHASE 200,000 CARS

Immediately following the return of the roads to their proper owners, and before, if it is possible, there should be purchased two hundred thousand additional freight cars. These should then be placed in service with the least possible delay. New locomotives to an amount sufficient to take care of current needs for more motive power, should also be purchased. It is the concensus of opinion of most clay products manufacturers that these two steps are absolutely necessary to overcome the present poor condition of transportation facilities and not a moment should be lost in putting them into effect.

The question of additional equipment raises another problem. Where are the railroads to get the necessary money with which to purchase these cars and locomotives?

ANOTHER FREIGHT RATE RAISE COMING

We desire to say frankly that we do not see how it is possible for this industry to dodge the freight rate increase issue. Nothing but commendation is due the various traffic committees of some of the national clay products manufacturers' associations who are industriously endeavoring to effect a correction of present inequalities in freight tariffs as between different commodities. Articles published in these columns, especially the paper read by M. F. Gallagher, appearing on pages 141 to 143 of the January 13 issue, demonstrate the need of an equitable readjustment. But after these discriminating inequalities have been ironed out, when we look at the existing shortage of equipment on the various roads and realize unless they get more cars we will have to close our plants, we see no other conclusion but to resignedly wait and expect another general increase in freight rates.

It is a well known fact that the railroads have been spending more than they have earned and it is absolutely necessary to increase their revenue. All that they have to sell is transportation, and therefore, freight rates must go up. What this rate increase should be is now receiving the consideration of the joint House and Senate committee, the railroad administration and the corporate managers. It is ventured as the opinion of some that the increase will probably not be less than twenty per cent. nor more than twenty-five per cent. When this increase occurs, it must naturally be added to the delivered prices of materials.

REPAIR BAD ORDER CARS

Next, bad order cars should be repaired without delay. There are undoubtedly thousands of such cars that could be put into service very quickly with prompt repairing.

Some manufacturers complain that they have noticed that the movement of empty cars in their locality is decidedly slow. In many cases the railroad companies would save a day, and often two, on scores of cars if they were handled more expeditiously. In this connection an Indiana brick company says, "Carriers

(Continued on Page 360)



WILLIAM SCHLAKE



CHARLES H. BRYAN



ERNEST S. BARKWILL

COMMON BRICK *in* JUBILEE SESSION

Rosy Outlook for the Business and the Necessity of Getting Hundreds of Manufacturers to the Ohio Capital, February 16, Informal Dinner on Tuesday Evening—President Schlake Offers Association will Award Silk Hat to Manufacturer Producing

NOTHING SHORT of a miracle has been accomplished in the common brick manufacturing industry within the past twelve months!

As every brick man knows, the gradually decreasing demand for common building brick, coupled with steadily rising manufacturing costs, has presented a real problem to the industry for considerably more than a decade. It has been well pointed out that, in all of these years, the manufacture and sale of other building commodities and materials has produced more than one millionaire; witness, Judge Gary in the steel industry, Edward Hines in the lumber business, and so forth. But where is the millionaire brick man? He is conspicuous by his absence.

A NEW OUTLOOK

The worm, however, has turned. Organized effort among common brick manufacturers has been the miracle working power that is painting the dull grey horizon of the brick-maker's outlook to a gold and purple dawn. The Common Brick Manufacturers' Association of America has had its coat off, it has been up and doing for little more than a year, and is preparing to celebrate the first lap of its promising journey at Columbus, Ohio, next week, beginning Monday, February 16, and extending over Tuesday and Wednesday, February 17 and 18.

The brickmakers, as they gather at Columbus, will be confronted not with a continually decreasing market, but with the fact that they have more orders at most plants than can possibly be handled in the time allotted. Never was common brick in such great demand as it is today, and never has it brought such a high price. Costs, which are exceedingly high, are robbing the selling price of a large return in profit, but there will be a sufficient margin, we believe, this year to return to the brick-



HOTEL DESHLER, COLUMBUS



TOM W. GREEN



WARREN GRIFFISS



FRITZ SALMEN

MAKERS *to* MEET N *at* COLUMBUS

*gether on Many Reforms in the Industry, Will Bring
17 and 18—Convention to be Strictly a Business Affair with
Pay Hotel Bill of Man Bringing in Most Members and
Best Example of an Association Trade-Marked Brick*

maker his ten per cent. which any business man ought to have upon his capital invested.

MAKE ALL BRICK YOU CAN, ADVICE

Common brick manufacturers are being urged to operate to full capacity thruout the coming season. "Make all the brick you can," is the advice of the association. At best, it will be difficult for common brick manufacturers to get back to capacity production this year, while the demand will be equal to any recent year. This makes it necessary for the manufacturer to produce all the brick possible.

For the first time in many years, the brick manufacturers will approach the spring building season with assurance of a demand that will exceed their supply. In many sections, even in the coldest parts of the country, the manufacturers are opening their clay pits and preparing to begin operations earlier than ever before. It is the plan of many to have every kiln filled with material, ready for delivery, at the outset of the spring season.

WILL FIND MARKET FOR EVERY MEMBER'S PRODUCT

The advice to make all the brick possible applies to every member of the association, especially. By an interchange of information between members, that soon will be inaugurated, the secretary will be in a position to find a market for every member's product, even if the local demand should not be

sufficient. On the whole, there will not be enough common brick. The association will direct the over-supply in any locality into the sections where it is needed and thereby help some other member to make good with his trade.

The association is in close cooperation with various organizations of contractors and with thousands of individual contractors and builders. It is encouraging the men who use the brick to ask for help. It is an important part of the mission of the Common Brick Manufacturers' Association of America to see that the contractor is supplied with all the trade-marked brick he can use, and that he always gets a square deal. The members of the association are the type of manufacturers who believe in the square deal. No others are eligible to membership.

So make all the brick you possibly can. Go into the spring with big stocks. If you do not have a local market for them, report your condition to the association.

England today is being forced to use other materials than brick, much against its will, because the manufacturers of brick are not taking care of the demand. Let us not fail in the United States to take care of the rising tide of brick demand that is certainly upon us.

COMMON BRICK NOW HAS STRONG NATIONAL

This is a very different outlook from that looked upon dur-

ing past years. For the first time in its history, the common brick industry is represented by a strong constructive national association devoted exclusively to its interests. Through the leadership of the Common Brick Manufacturers' Asso-



RALPH P. STODDARD
The Live Wire Secretary-Manager

ciation of America, building brick manufacturers in the country have, during the past year, taken notable steps forward. Hope in the hearts of the brick men is not so much inspired by the general business conditions and the abnormal demand for material as by the feeling of security in the association and its promise to stabilize conditions for the future.

During the first three days of next week, there will be serious discussion of the various problems that are now before the industry. The matter of a uniform size for common brick is one of these. There is no uniform grading or uniform names or terms for the various divisions of the kiln. In one section of the country, manufacturers mark all brick from the kiln under one grade; in another they make two grades; in another there are three, and in still another place, four. This problem will be discussed and a solution sought.

SOME THINGS WE DON'T KNOW

No one manufacturer knows what it costs another to make brick. There is no uniform method of accounting. Moreover, there is no fixed scale of wages in the industry. There is no uniform practice in credits and discounts. These will all be carefully considered at Columbus, February 16 to 18.

More vital, however, than all of the foregoing, prior to the inauguration of the Common Brick Manufacturers' Association of America, there was nothing being done to promote the use of common brick. The subject of advertising will receive a large share of attention at the forthcoming convention. The progress of the national advertising campaign will be told and a thorough demonstration made of the free plan service and sales helps which are being provided the manufacturers by the association.

CONVENTION TO BE A BUSINESS MEETING

It is to be a thoroughgoing business meeting with every address a discussion of the greatest possible help to the brick

men. At the first session, Monday afternoon, following the address of the president, William Schlake, of Chicago, and reports by Treasurer E. S. Barkwill, and Secretary Ralph P. Stoddard, there will be a report from one delegate from every state in the Union. These brief reports will bring out the information regarding local supply and demand, coal, fuel and car supply, labor conditions and costs of manufacture, that every other brick man present will want to hear.

Touching upon the standardization of the brick size, grading and the means of getting proper cooperation from the architects of the country, there will be addresses by D. Knickerbacker Boyd, of Philadelphia, an architect of national reputation, and by William Carver, architect of the association.

TWO ILLUSTRATED TALKS

There will be two illustrated talks of the greatest interest to the brick man. One will describe the operations of the Chicago Housing Corporation and tell why common brick is being used in the erection of 10,000 low-priced homes. The speaker will be James Basiger, general manager of the housing association. W. N. Cary, of Albany, N. Y., will show a number of attractive views in his talk upon "Brick Homes, Old and New."

In Baltimore, common brick is widely used for facing purposes and Warren Griffiss, of that city, will give some valuable suggestions to his brother brickmakers along this line.

There will be a blackboard talk upon the cost of manufacturing brick that no brick man of the country can afford to miss. A man who fails to make the cost of his trip to Columbus out of this feature must already be an efficient accountant.

Now that the brick industry is coming into greater prosperity and will appear before the world in national publicity, it is important that the brick man himself be prepared to gain the full reward of the association effort. To that end, an



WILLIAM N. CARY
Who Will Read An Illustrated Paper

address will be made by Ernest C. Bell, vice-president of the Hydraulic Steel Co., Cleveland, on "Putting Your Own House in Order."

PROGRAM OF COMMON BRICK MANUFACTURERS' ASSOCIATION MEETING

Monday, February 16, Forenoon

Members and guests will arrive in Columbus in the morning and make their hotel arrangements and register at the convention headquarters on the second floor of the Deshler Hotel.

Every session of the meeting will begin at 9:30 in the morning and at 2:00 in the afternoon. These are real business meetings and everyone should be in the convention hall a few minutes beforehand so as not to disturb the session. All meetings are to be short and snappy.

Monday, February 16, 2:00 P. M. Sharp

1. President's Address—William Schlake, Chicago.
2. Report of the Treasurer—Ernest S. Barkwill, Cleveland.
3. Report of the Secretary—Ralph P. Stoddard, Chicago.
4. Importance of Knowing Your Cost—E. H. Schull of Ernst and Ernst, Chicago.
5. Why There Should be a Standard Size of Common Brick—William Carver, Chicago.
6. How the Manufacturer and Bricklayer May Cooperate—Thomas R. Preece, Vice-President of the International Bricklayers' Union, Chicago.
7. Appointment of Nominating Committee.
8. Reading of Changes of By-Laws to be Voted Upon on Wednesday.

Tuesday, February 17, 9:30 A. M. Sharp

1. Beauty of Common Brick—W. Griffiss, Baltimore.
2. The Architect and the Industry, the Vast Possibility of Common Brick—D. Knickerbacker Boyd, Philadelphia.
3. Reports by States and Districts Upon: (a) Labor; (b) Fuel; (c) Empty Car Supply; (d) Stock; (e) Demand.

This feature will be followed by a general discussion of the conditions in the clay industry and the 1920 outlook.

Tuesday, February 17, 2:00 P. M. Sharp

1. Display of National Advertising Copy and Literature.
2. Exhibit of Plans and Specifications.
3. You and Your Business—D. H. Nichols, Nichols-Moore Co., Cleveland.
4. The Story of Common Brick—R. G. Collier, Sam B. Anson Co., Cleveland.
5. What Three Brick Will Do—R. P. Stoddard.

Tuesday, February 17, 6:30 P. M.

1. Business Session in Connection with Brickmen's Formal Dinner.
2. Putting Your Own House in Order—Ernest F. Bell, Vice-President, Hydraulic Steel Co., Cleveland.
3. 10,000 Houses of Common Brick—James S. Basiger, General Manager, Chicago Housing Corporation, Chicago.
4. Common Brick Houses, Old and New—William N. Cary, Albany.

Wednesday, February 18, 9:30 A. M. Sharp

Business session according to regular order, followed by an election of directors for the ensuing year.

A SESSION DEVOTED TO ADVERTISING

One session will be devoted to the subject of advertising. There will be a display of the common brick campaign advertising and literature and addresses by expert advertising men including, it is expected, E. T. Merideth, of Des Moines, president of the Associated Advertising Clubs of the World.

Walter R. Simons, of Los Angeles, Cal., has patented a method of laying a common brick wall with air space and he is expected to demonstrate this wall and give a talk upon it.

There will be an exhibition of the association house plans and sample panels of common brick in one of the rooms of the hotel. A trip will be made to the Ceramic School of the Ohio University, the educational center of the industry.

COMMON BRICKMAKERS' DINNER TUESDAY NIGHT

On Tuesday evening an informal dinner will be held.

Two competitions will be held in conjunction with the convention that will add to the merriment and be an incentive to attendance. For the best specimen of an association trade-marked brick shown at Columbus a fifty-dollar silk hat will be given. Many members are already using the trade-mark

on their product. Every manufacturer should bring a specimen trade-marked brick with him. Judges will inspect the brick and award the aristocratic headgear.

GET YOUR HOTEL BILL FREE!

The hotel bill of the member handing in the largest number of new membership applications during the convention will be paid by President Schlake. Every member is expected to join the "Brother Club," and that means he pledges to bring at least one non-member brick man to the convention with him.

Let the brick man who hesitates to attend the Columbus meeting consider that the men who do attend are the successful men of the industry. That can be turned about to mean that attendance at such meetings as this breeds success. And that is the truth. Men who study their own business—and there is no better place of study than at the convention—are the men who make the most of their opportunity.

It is best to make reservations at a hotel at once. Reach Columbus Sunday or early Monday. Convention starts sharp at 2 p. m. Monday. The hotels in Columbus are: The Deshler, Chittenden, New Southern, Neal House, Hartman and Virginian.



BADGERS DISCUSS BRICKLAYER PROBLEM

PRESIDENT JOHN RINGLE of the Wisconsin Clay Manufacturers' Association, opened the twentieth annual meeting of the association which was held in the old standby, the Republican House, Milwaukee, on Tuesday and Wednesday, January 27 and 28, with a short speech in which he recalled briefly the problems of local manufacturers. As is the case with brickmakers in all other parts of the country, Wisconsin manufacturers are experiencing a shortage of help and a demand that is greater than ever experienced before.

After hearing the reports of the officers and committees, a very interesting session followed in which a discussion was held on the subject, "Can the Brick Manufacturer and the Bricklayer Cooperate?" The matter was opened by Charles J. Ebert, of the Bricklayers' and Masons' Union of Milwaukee. Some of the recommendations he made were that a uniform and standard size brick be manufactured instead of the large variety of sizes made by the different manufacturers thruout the state. He believed that a larger brick would be of aid to the general public because less brick would be required for the same volume of building and a greater volume of work could be accomplished by a bricklayer in a single unit of time. Thus building could be made to cost less if a larger brick were made. Mr. Ebert also suggested that a sign be placed on wagons and on every job that is built of brick to advertise the fact that fireproof material is being used in the construction work.

GREAT SHORTAGE OF BRICKLAYERS

A. W. Hilker, formerly a brick manufacturer of Racine, and now a dealer in clay products in that city, answered Mr. Ebert and discussed the effect of making brick in various sizes and shapes. He stated that some manufacturers were able to gain a day in burning time by reason of having a panel made in the face of a brick. Mr. Hilker urged more cooperation by opening more schools of industrial education where bricklaying can be learned. This point was answered by Mr. Ebert who stated that such a school was maintained in Milwaukee but it was a hard problem to secure enough apprentices. He added, at the present time

there was a shortage of 900 bricklayers in Wisconsin and 4,000 in Chicago. Mr. Ebert was also under the impression that the use of concrete construction is at its height now and that lumber was also beginning to be a thing of the past.

Ralph P. Stoddard, secretary of the Common Brick Manufacturers' Association of America, who was present at this discussion, then arose to correct the opinion that frame construction was dwindling by stating that of the number of residences constructed last year, eighty-five per cent. were of frame. Concrete construction is also far from being on the decline and brick will need to push itself in order to hold its own. He also stated that one of the subjects for discussion at the coming convention of the Common Brick Manufacturers' Association of America, at Columbus, would be the standardization of the size of common brick. The result of this discussion served to create a better feeling between the brick manufacturers' and the bricklayers' union.

STODDARD TALKS ON NEW ASSOCIATION

A splendid address on the new Common Brick Manufacturers' Association of America and the advertising and promoting of brick it proposes to do, was given at this time by Ralph P. Stoddard, secretary-manager of the organization. Mr. Stoddard presented the whole situation in a brief and concise manner with the result that quite a number present at the meeting joined the association.

On Wednesday morning, a round table discussion of "Local Methods of Brick and Tile Manufacture" was taken part in by everyone present. Each manufacturer got up and described briefly the following phases of manufacture as employed at his particular plant:

1. Mining and Hauling the Clay. 2. Preparing the Clay.
3. System of Drying. 4. Kind of Kiln Used in Burning.
5. Kind and Cost of Fuel. 6. Labor System and Cost.
7. Grading and Price of Product. 8. System of Book-keeping and Accounting.

These descriptions of plant operation proved to be the feature of the program. Much information of great value

to all manufacturers present was divulged in the talks and discussions that followed them.

The last thing on the program was the report of the special committees which had been appointed during the convention. The committee on resolutions drew up resolutions to cover several of the important subjects that concerned the industry in Wisconsin at the present time. Owing to the fact that most Wisconsin brick manufacturers ship their brick on short haul distances, the railroad rates which have been more favorable to long hauls, are unfair to Wisconsin clay manufacturers. The consensus of opinion among those present was that some measures should be taken to attempt to secure more equitable rates on brick shipments.

PASS RESOLUTIONS ON FREIGHT SITUATION

Another point of importance to the success of the industry is the situation with regard to the bricklayer supply. As stated previously, there is a tremendous shortage of bricklayers thruout the state and this shortage not only holds up building but reduces the demand for brick and prevents the manufacturers from realizing fully the advantages of the present heavy demand for building materials. Both of the above subjects were covered in the set of resolutions passed by the convention in the following form:

1. WHEREAS, the present railroad rates as applied to the clay manufacturers in the state of Wisconsin are unfair and inequitable compared with rates on other commodities,

RESOLVED, that the committee on railroad rates is hereby authorized and directed to take such action in behalf of this Association as may be deemed necessary to procure such rates on shipments of clay products in Wisconsin as will be fair and equitable as compared with rates on other commodities and in accordance with the principles upon which is based the decision of the Wisconsin rate committee on August 15, 1911.

2. WHEREAS, there is a tremendous shortage of bricklayers in the State of Wisconsin at the present time, and this shortage seriously affects the brick manufacturers and community at large,

RESOLVED, that the Wisconsin Clay Manufacturers' Association urge the more general training and education of boys in the bricklaying trade in the vocational and industrial schools of the state.

And, be it further resolved, that this Association urge the elimination of all restrictions as to the number of bricklayer apprentices allowed by the bricklayers' union of this state.

The nominating committee recommended the re-election of the present officers and as a result a unanimous vote was cast for the reappointment of last year's officers who were: President, John Ringle, of the John Ringle Brick Co., Wausau, Wis.; vice-president, Oscar Zimbal of the Oscar Zimbal Brick Co., Sheboygan, Wis.; secretary, Samuel Weidman, Madison, Wis.; treasurer, Erwin Fricke, Wm. Fricke Sons Co., Manitowoc, Wis.

Following this election, President Ringle appointed the following committee on railroad rates: John Ringle, Wausau, Oscar Zimbal, Sheboygan, and Carl Burnham, Milwaukee.

Those who attended the convention were: John Ringle, Ringle Brick Co., Wausau; Erwin Fricke, Wm. Fricke Sons Co., Manitowoc; A. W. Hilker, Racine; O. Zimbal, O. Zimbal Brick Co., Sheboygan; Rudolph F. Schober, Monroe Steam Brick Works, Monroe; Chas. C. Stadler, Two Rivers; Anton Stiel, Jefferson Brick & Tile Co.; Samuel Guenther, Guenther Bros. Brick & Tile Co., Port Washington; A. O. Wachter, Falls Brick & Tile Co., Sheboygan Falls; Irwin G. Touper, Acme Brick Co., Milwaukee; H. A. Smyth, Wisconsin Brick Co., Madison; Chas. J. Ebert, Bricklayers' & Masons' Union, Milwaukee; Paul F. Fricke, Milwaukee; Ralph P.

Stoddard, Common Brick Manufacturers' Association, Chicago; Chas. L. Burnham, Burnham Bros. Brick Co., Milwaukee; J. J. Moroney, Chicago Brick Machinery Co., Chicago; Ed. W. Langenberg, Stevens Point; F. L. Steinhoff, *Brick and Clay Record*, Chicago.

Realize Less Than One Per Cent. Returns

Operators, February 2, submitting statistics on net earnings for 1919 of representative bituminous mines producing more than 30 per cent. of total output in Central Competitive Field, told the Federal Coal Commission that if present 14 per cent. wage increase were applied thruout year 1920 these companies, on a basis of their 1919 tonnage, would "realize less than one per cent. net returns on the capital investment." Any increase in wages above that amount, they declared, would mean a correspondingly greater deficit below the recognized equitable return of six per cent. J. P. Muller, statistician for the operators, read into the records the earning of bituminous mine operation, as compared with manufacturing and other industrial enterprises for three-year period preceding the war, and the four years of its duration. He declared that figures demonstrated that "in every year of that period mine operations have been earning a percentage on capital invested away below that earned by the other industrial groups."

Success

Know the Success Family.

The father of Success is Work.

The mother of Success is Ambition.

The oldest son is Common Sense.

Some of the other boys are Perseverance, Honesty, Thoroughness, Foresight, Enthusiasm and Cooperation.

The oldest daughter is Character.

Some of her sisters are Cheerfulness, Loyalty, Courtesy, Care, Economy, Sincerity and Harmony.

The baby is Opportunity.

Get well acquainted with the "old man" and you will be able to get along pretty well with the rest of the family.—
Upper Cuts.

CONVENTIONS IN PROSPECT

February 16, 17 and 18—Common Brick Manufacturers' Association of America, Deshler Hotel, Columbus, Ohio.

February 18, 19 and 20—National Brick Manufacturers' Association, Deshler Hotel, Columbus, Ohio.

February 23, 24, 25 and 26—American Ceramic Society, Bellevue-Stratford Hotel, Philadelphia, Pa.

February 24, 25 and 26—Western Ontario Clayworkers' Association and Ontario Drainage Association, Builders Exchange, London, Ont., Canada.

March 17, 18 and 19—The Refractories Manufacturers' Association, White Sulphur Springs, W. Va.

IMMENSE SAVING *with* CONTINUOUS SYSTEM *of* BURNING

Canadian Plant Uses Only 519 Pounds of Coal Under Unfavorable Conditions, to Burn 1,000 Brick in Round Down-Draft Kilns

IF THERE IS ANY ONE DIVISION in the clay-working industry that can be said to have reached a higher plane of development than the other phases, during the past several years, that branch is without doubt the process of burning the ware. It is only natural that this should be the case because it will be seen after consideration that necessity has made it so. The rising increase in the cost of fuel has made it very urgent to find some means of burning clay goods with greater economy than is now practiced; thus the continuous system of firing which is undoubtedly the cheapest with regard to fuel consumption, has come more and more into its own with increasing popularity.

There are in use, three different ways in which the continuous system of firing may be applied. The continuous kiln, either tunnel or chamber, has made marked progress in the industry. A recent new use for this type of equipment was the installation of a producer gas fired chamber kiln on a large new plant for the burning of fire brick. The railroad or car tunnel kiln is deservedly making deep inroads into the clay working field.

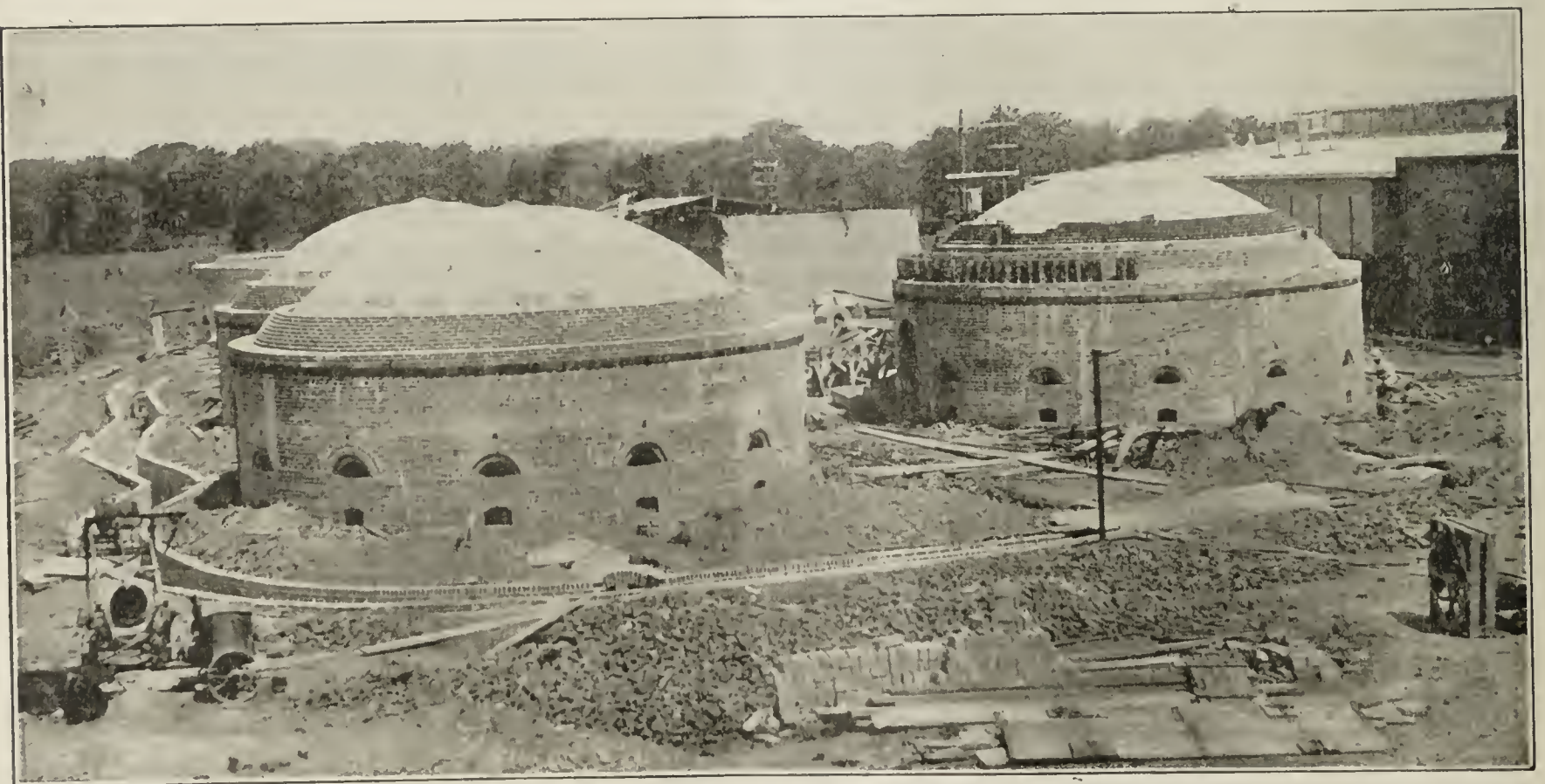
A recent noteworthy addition to the continuous process of burning is the installation of the Minter system, a principle which is applied to periodic kilns. The man who conceived and designed this system is M. M. Minter, who is connected with the Flint River Brick Co., of Albany, Ga.

Mr. Minter has had a long and wide experience in the clay working industry and knows the practical side thoroly. He has studied burning as a science and applies scientific principles in brick burning to a greater degree than is usually practiced. He is a very sincere southern gentleman and believes in being conservative in making any claims for the Minter system. Reliability in his statements is one of his greatest virtues.

DO NOT HAVE TO CONSTRUCT NEW KILNS

A particular and excellent feature of this principle of burning is that you do not have to junk your old kilns to employ the continuous system of burning but can by a small expenditure with your present equipment, readily employ periodic kilns which by many are claimed to produce the highest quality of ware, to the principle of continuous burning and gain the advantages that accrue from the use of those principles, such as a large saving in fuel costs, the speeding up of burning, and greater capacity.

The possibilities for enormous savings that can be made by the installation of the Minter system is best illustrated by a description of the plant of Merkley's Ltd., Ottawa, Canada, where the application has recently been completed and tried out. As told in D. C. Merkley's own words, "For a number of years we have been interested in clay



Note Particularly the Underground Flue System Surrounding the Kilns in the Above Photograph, Taken During the Building of the Kilns and Flues, According to the Minter System, at the Merkleys Ltd. Factory in Ottawa, Ont.

working and plant operation. We have visited a number of plants and naturally studied every phase of operation wherever such an opportunity offered itself. We have always found round down-draft kilns producing good results and decided that it

was the best type of kiln suited to the variable requirements and the production of the highest quality ware. The cost of burning ware in round-down draft kilns has always been high and this fact led us to investigate a system advertised in the clay working journals as the Minter system. I accordingly made a special trip to the plant of the Flint River

Brick Co., Albany, Ga., where this system had been in use for more than two years. The results obtained, as proven by their records, the burned ware on hand, and the actual operation, were noted very carefully. After a thorough investigation of the claims and of the records, I was fully convinced of the economy of this system and accordingly contracted for a battery of seven kilns to be built with this system applied. The results obtained upon burning our production under the system, have fully met our best expectations."

DESCRIPTION OF MERKLEY PLANT

The Merkley Ltd. plant is situated on the outskirts of the city of Ottawa, and is located on a deposit of soft surface clay. Common brick, face brick, drain tile and hollow building tile, are manufactured. The capacity of the plant is one hundred and fifty tons of ware or sixty thousand brick manufactured daily. Building tile in sizes from 4x12 to 12x12 are made. The clay lies in three strata which are termed by this particular plant as strong, mild and blue clay. The strong clay has a red color, is quite lumpy, and is blasted and then collected by a clay gatherer which delivers it to a large hopper into which it is dumped. The mild clay is a sandy grey colored stratum which occurs di-

rectly beneath the strong clay. This clay is also collected and dumped into the hopper in the proportion of one part of mild clay to every two parts of strong clay. The blue clay is a soft material which is shoveled from the pit di-

rectly into clay cars. As the cars come beneath the hoppers, the two parts of the strong clay, and the one part of mild clay are dumped into it, thus making the entire car composed of one-half strong clay, one-fourth blue clay and one-fourth mild clay. The strong clay gives color and range to the product.

A deposit of shale which is also owned by the con-

cern, is located about four thousand feet from the plant, to which it is hauled by means of an industrial railway operated on a two per cent. grade incline. This shale has no over burden, has a black color but burns red. The shale is used in the manufacture of stiff mud brick and in mixture with the other clays for hollow tile manufacture.

RE-USE HEAT IN DRYER

The machine room is equipped with a soft mud brick machine, stiff mud brick machine and hollow ware machine. A thirty track waste heat dryer equipped with steam coils is employed to dry the ware made. It is equipped with two fans, one of which brings the heat to the kilns and forces it into the dryer, and the other draws some of the hot used air and forces it back into the dryer for the second time. The burning is done in seven kilns which are connected with each other by underground flues according to the operation of the Minter system. These seven kilns are all new round down-draft type and were constructed of the best materials and construction methods used in kiln building at the present time. The kilns have thirty foot diameters and are built with twelve fire holes. The bottoms are constructed with a



Showing Some of the Features of the Construction Work in the Building of the Kilns and the Construction Gang on the Merkley Plant.



A View of the General Layout of the Factory and Kilns of the Canadian Plant After the Installation of the Minter System Had Been Completed and Was in Operation.

circular flue ten feet in diameter with eight openings across the center and covered with floor brick. The distribution of heat in a kiln not of open bottom type is here proven to be practical and the first cost and upkeep of open bottoms is eliminated. The circle is an eight inch flue, two feet deep and is connected at each end to the discharge flue. The discharge flue which is 30x36 inches in size, has eight openings across it, each of which measures 4x30 inches. The circular flue



A Special Feature of the Kiln Construction Was the Method of Building the Fireboxes, Which Were Made in a Separate Unit Enabling Them to be Removed Without Touching the Main Kiln Structure.

which runs outside of the kiln and is concentric with the kiln circumference, is 24x24 inches in size with graduated inlets into the various fire boxes. Obviously, the inlets farthest from the source of main supply of air or gases are larger in size. The fire boxes are of the grateless furnace type, and built as a separate unit enabling them to be renewed without touching the main kiln structure. The kilns of this plant were built unusually high to permit the entrance of the high soft mud dryer cars which are employed in drying soft mud brick.

IMPORTANCE OF FLUE SYSTEM

The flue system is designed to do any one of three things at different stages of the burn: It discharges the gases from the kilns into the induction flues during water-smoking; it discharges the gases into the waste heat flue during cooling; or it discharges the gases into the flue leading into the next kiln ahead of the burning kiln for preheating the succeeding kiln. In each burn, each flue is used in some stage of the burning process. The draft is produced by a one hundred and forty inch multiblade induction fan, driven by a twenty-five horse power motor, altho only fifteen horse power are actually required to drive it. The flow of air produced by this fan is directed from kiln to kiln and from flue to flue by almost air tight dampers. A damper can be regulated to give instantly just the draft required according to the stage of the burn thru which the kiln is passing and the atmosphere required in the kiln.

Control of the distribution of heat is by a series of flues and openings built in them and only the manipulation of dampers is required in the regulation of this system. Outside of this, the only attention necessary is that required to remove any obstruction that may get into them, and this can be done very easily from the outside.

The continuous system of burning is carried on thru a regular cycle of operation in the following manner:

Kiln No. 1 has just finished burning and is cooling.

Kiln No. 2 is on hot fire.

Kiln No. 3 is preheating entirely thru the agency of waste gases from the other kilns.

Kiln No. 4 is watersmoking with the waste heat obtained from a cooling kiln.

Kiln No. 5 is being set with green ware and prepared for firing.

HOW SYSTEM WORKS

Now to return to kiln No. 1, this kiln is at high temperature and is furnishing waste heat from its cooling ware to the kilns, Nos. 2, 3 and 4, the hot gases passing thru the flues, fire boxes and into the kiln.

Kiln No. 2 is being fired to maturity in the regular manner by the use of live fuel in the fire boxes. These furnaces may be fired by the aid of forced draft which is an available means of economy where conditions require it, such as in the use of a very high priced fuel or low grade fuel that could not otherwise be utilized. In such an event, part of the forced draft is supplied from the atmosphere and part from the cooling kiln No. 1. To accomplish this a portable fan is placed over the damper and the highly heated air is drawn from kiln No. 1 thru the direct connecting flue with kiln No. 2 and forced thru the flue circling the kiln and then into the furaces of kiln No. 2.

WARE HEATED TO RED HEAT WITHOUT FIRING

Kiln No. 3, is receiving all of the waste heat of combustion from kiln No. 2, and in addition it is receiving a portion of the waste heat from the cooling kiln No. 1. Before a pound of fuel is burned in the furnace of this kiln, it will have attained a low red heat, absorbed from the highly heated gases that pass thru it and which were formerly wasted.

The ware set in kiln No. 4 is watersmoked to a bone dry state and without the expenditure of a pound of fuel. All of the heat used is secured only from the cooling kiln No. 1. No heated gases of combustion from kiln No. 2 are used, and therefore whitewashing is minimized, and none can occur from the sulphur gases in the watersmoking heat.

The whole system was designed to give absolute control of every stage of the burning process, and will therefore meet the requirements of any material. The system works well without the portable auxiliary fan but more economically with it. The portable fan is designed to stand as high a temperature as the grate thru which the draft is forced. Furthermore, the use of the portable fan gives better combustion, produces a continually oxidizing atmosphere, burns any grade of fuel, excludes atmospheric air from the kiln under fire, decreases smoke, and when properly fired practically eliminates it; it also utilizes a portion of the heat from the preceding kiln for preheating the air for the combustion of fuel in the burning kiln, produces and aids in the distribution of heat thruout the burning kiln, and gives a more even distribution of heat by destroying the partial vacuum within the kiln under fire by supplying just the volume to the burning kiln that is being removed by the induction fan, thus producing a balanced draft quicker and results in more even burns thruout the kiln.

BURNING IS SPEEDED UP CONSIDERABLY

On the Merkley plant, only one day and one night fireman is used. The heat is raised as fast as eight degrees an hour and seventy-two hours firing time has been ample for the average kiln. The ware is usually burned to a temperature of 1,800 degrees Fahr. The equal distribution of the heat thruout the entire kiln is undoubtedly responsible for this fast burning and is caused by the draft being focused on the center of the kiln in all stages of the burn.

The result of the use of the Minter system on this plant

has been a great decrease in production costs, easy control of the burning and altogether satisfaction in the burning system. A great improvement in the quality of ware has resulted over the old methods of burning employed at this plant. Further than this, it has eliminated practically all smoke since no smoke is liberated from the kilns at any time of the burn.

On the last burn around, just before the plant closed down for the winter last December, some of the kilns and flues were wet and the weather was cold, nearly zero for a portion of the time. A record of this last burn, however, showed that in the burning of five kilns of brick totalling 520,000 in number, only 135 tons of coal, or an equivalent of 519 pounds of fuel per thousand brick were burned. The ordinary down-draft kiln consumes 1,000 to 1,500 pounds of coal per thousand brick burned. In addition to burning the brick, the waste heat obtained was sufficient to dry about 375,000 brick; and, the waste heat from the last kiln burned could not be used because there was no ware in the dryer.

WARE OF VERY HIGH QUALITY

The brick burned in the kilns was of very high quality and fully eighty-five per cent. were face brick and sold as such. Very good burns were also obtained in like manner when hollow ware was set in the kilns. Practically no smoke was produced in the burning of this ware.



"GET ORDERS *in* QUICKLY" is ADVICE of BUILDING EXPERTS *to* CONSUMERS of MATERIAL

PROJECTORS OF NEW BUILDING OPERATIONS or alterations to existing buildings are being urged by all disinterested analysts to waste no time in getting their material specifications into manufacturers' hands if they contemplate getting their work under way and well toward completion by the spring of 1921 according to the Dow Service daily building reports of February 2.

Developments favoring such counsel featured the week just closed and unquestionably point the way to a prompt adjustment of many of the problems that have made the outlook for building construction dubious. In the matter of car shortage, influences were brought to bear upon the Railroad Administration at Washington by powerful commercial interests of New York and elsewhere and the result was the imparting of a general feeling that the present Government control would automatically cease in about four weeks when independent railroad competition would solve, in great measure, the difficulties now making for car shortage.

This matter has a direct bearing upon the brick distribution in New York now and it affects the great shipments of upper Hudson brick that are being sent by rail into the New England markets. Important brick interests have complained of unequal car distribution, but the inference is that this will be one of the quickest points of adjustment within another six weeks.

COMMON LABOR SUPPLY GREATLY IMPROVED

Manufacturers of building materials in almost every department promise a gradual change in the famine conditions pertaining to building material supply. In another six weeks, at the outside, they say, the flow of materials to this market will begin to approximate the maximum known in 1912. It is a certainty that efforts to produce building materials in greater quantities than ever have been known, at least in a quarter of a century, are already being made.

After the dampness in the flues and kilns has completely been driven out and the system of burning better understood, it is expected that only three hundred pounds of coal per thousand brick will be required.

The flexibility of the system is wide because just as good ware can be produced when operations are temporarily interrupted as when the operation is continuous. In case something interferes with the continuous operation of the system, the kilns are simply operated as periodic down draft kilns in the same manner as on a good many plants having such equipment. The principle of continuous burning in down-draft kilns may be applied to five, seven, nine or more kilns and where the number is large, two fires can be employed. In instances where the round down-draft kilns are too close together to permit the construction of the circular flue on the outside, it is placed within the kiln with equal success.

Some of the advantages of the Minter system are that it saves fuel, saves time in burning, and can be employed to increase the kiln capacity of a plant without the addition of a single kiln by reason of its speeding up the burning time. Any fuel may be used in burning and either an oxidizing or reducing atmosphere can be produced. The system can be applied to a battery of kilns without much interruption of operation since the kilns can be equipped in succession and put into operation as finished.

Common labor supply in building material industry is greatly improved, permanency of employment and assurance of a long period of prosperity in the building industry, being the dominant reasons for the change in labor supply.

Capacity that has not been employed in a generation is being made available for market needs while the price peak is present, the feeling being general that inflation in raw building material values has about reached its maximum. It does not now seem probable that common brick will go above \$25 wholesale, which with the usual charge for handling, hauling and 15 per cent. makes the present price of this commodity delivered below 110th street, at about \$31 a thousand. There is about 150,000,000 still available in the Hudson Valley for New York consumption, which is ample for the immediate requirement. The cement mills are extremely active in production. Timber cuts in the West are breaking all previous records and the same is true of Canada. From forty-two forest rangers the indications are that 325,000,000 feet will be out this season, which exceeds the record made in November 15 to December 15 last when 100,000,000 feet were cut. There is now only 15 per cent. of the country's available structural steel shop capacity left. The next fire of the glass mills will schedule a greater volume of production than probably ever has been made.

NO LONGER NEED TO FEAR PRICE BOOSTS

The big problem is to book the year's potential business as quickly as possible. There is no longer any need to further general price boosts and neither is there anything to be gained by waiting for price recessions. The latter cannot occur for many years to come, probably five; maybe seven to nine.

Financiers say that no matter what occurs in the investment markets, the demand for new building and better hous-

ing conditions is so great that any possible financial disturbance in the "street" would result in Federal action being demanded to make building an essential industry. The worst effect that trained observers in finance say they see in a readjustment of the financial situation is that there would be a shift from industrial and commercial construction to dominance of housing, hotel, tenement and apartment building. Building material market experts declare that if all construction were suddenly shifted from commercial and industrial to housing, hotel, tenement and apartment building, there still would be a demand sufficient to take care of 65 per cent. of the capacity of the building material plants of that part of the country east of the Mississippi, which is about 20 per cent. more than these same plants, taken as a whole, will be able to operate this year with the supply of common labor as low as it was in the autumn of 1919.

Strikes are as much out of place at this time in the building industry as is a disposition of the building material manufacturers to continue price advances. This has become so acute that the New Jersey building material distributors who have been strike victims for some time, have declared open shops and the steel erectors have followed suit in New York. The bricklayers are still on strike when all other labor scales, generally speaking, have become stabilized at \$8. Investors frankly say they can go no farther in view of the growing uncertainty regarding the immediate future of the investment market and the statement is freely made that unless stability comes pretty soon, there will be ample cause for refusing to consider building loan proposals.

* * *

Nominees for Officers of A. C. S.

Besides the announcement of the nomination of Dr. E. W. Tillotson and Dr. E. W. Washburn as candidates for the presidency and vice-presidency respectively of the American Ceramic Society, with which fact most members of the society are already acquainted, *Brick and Clay Record* has learned of the nomination of R. R. Minton and E. T. Montgomery as president and vice-president respectively, tho this announcement has not as yet been made to the membership in general.

The time for the annual meeting is rapidly drawing near and the responsibility laid upon the society this year is incomparably greater than ever before. The society has a large share in the national plans for ceramic research and the importance of this industry has gained considerable impetus since the country at large has learned of its essentiality during the war.

The membership of the society is now over twelve hundred in every branch of the ceramic industry: structural wares, pottery, porcelain for scientific uses, refractories, glass, enamels and cements, must be represented on the program. This year's meeting promises to be just as epoch-making as the two or three which have just preceded it. It is urgent that everyone be present.

* * *

Plans to Erect Vitrified Brick Plant

The Clay Products Co. of America, Zanesville, Ohio, headed by R. C. Burton of that city, has taken an option on extensive clay properties at New Hope, Pa., in Bucks County, not far from Lambertville, N. J., and is said to be planning for the erection of a large plant for the manufacture of vitrified brick. The site comprises two farms of the Eastburn Reeder Estate, near the west town limits, and carries a fine deposit of material in practically unlimited

quantity. Some years ago, in 1913, New York interests took over the Huffnagle property in this section, with view to erecting a brick plant of similar character, but after an expenditure of several thousand dollars, the project was dropped. Watson K. Reeder, local agent for the Northeast Pennsylvania Railroad, is interested in the new project, having been instrumental in interesting the Clay Products Co. in the site.

* * *

Must Attend School 200 Hours a Year

The Senate, on January 26, passed the Kenyon Americanization bill, which would require all citizens of the United States of 16 to 21 years of age, not mentally nor physically disqualified, and all alien residents between the ages of 16 and 45, who cannot speak, read or write English, to attend school not less than 200 hours a year.

* * *

Acquires Two Large Common Brick Plants

The Marlboro Sand & Gravel Co., a subsidiary of the Alsen Cement Co. of America, 110 West Forty-second Street, New York, has acquired the plants and business of the Atlas Building Material Co., located at Hudson, N. Y., and at Roseton, Orange County. The company purchased has been a large manufacturer of common brick, and the plants have an annual output of close to 30,000,000 brick. It has not been decided yet whether the company will operate the plants or if such will be leased to other managing interests. An official of the purchasing company states that the works will undoubtedly be run at a high producing basis. The Marlboro Sand & Gravel Co. is a successor to the John B. Rose Co., a well-known brick manufacturer of the Hudson River district.

* * *

Must Release Useless Employees

Secretary Meredith, answering questions of newspaper men February 2, regarding means for reducing high cost of living, said that useless employees, no matter in what line they may be engaged, must be released from non-productive work and given an opportunity to become producers upon the farm or in the factory. If this is done and if jobbers and retailers recognize the harm that must ultimately come from profiteering on the farmer and content themselves with a reasonable profit, the question of the high cost of living will largely solve itself to the permanent good of all. But unless the whole country—all business and all labor—does recognize this as a common problem and does the things necessary to solve it, less and less will there be of farm produce to divide among the whole people and higher and higher will go the price of that which is produced.

* * *

Stove Lining Manufacturers Meet

The National Stove Lining Association recently held an interesting meeting at the Herald Square Hotel, New York, with morning and afternoon sessions. The gatherings were arranged exclusively for members, and considerable important business was transacted. A good delegation was present from the New England clay districts, as well as from the Raritan River section of New Jersey.

* * *

The Empire Tile Co., Cleveland, Ohio, has increased its capital from \$125,000 to \$425,000.

INNOVATION MEETING HELD *by* NEBRASKANS

Nebraska Brick and Tile Association Holds a "Short Course" in Clay Plant Operation and Management at Annual Convention That Proved Unusually Successful

OF ALL THE STATE associations in the brick and tile industry, the Nebraska Brick and Tile Association is second to none in regard to its spirit of cooperation and activity, as was shown at the fifth annual meeting held at the Lincoln Hotel, Lincoln, Nebr., on Tuesday, Wednesday and Thursday, February 3, 4 and 5.

The membership consists of eighteen brick and tile manufacturers thruout the state of Nebraska, fourteen of whom were present at this meeting. The meetings are conducted in such a spirit of cooperation and unity that it may be compared with the board of directors of a large corporation.

One of the most important undertakings of this organization is the advertising campaign conducted in direct appeal to the farmer trade. Blue prints, which were drawn up by the Agricultural Engineering Department of the University of Nebraska, have been sent out free of charge to all persons making inquiry. Other service to prospective builders in the form of estimates and costs of farm structures has also been given by the association.

To accomplish this work, in addition to the advertising space placed in the "Nebraska Farmer," an assessment of three cents per thousand has been made on the various manufacturers. A double barreled, live-wire, paid secretary is engaged to carry on the executive work for the whole association. Owing to the fact that he has specialized in secretarial work for various kinds of state organizations, Frank I. Ringer is unusually well fitted to carry on this work for the Nebraska Brick and Tile Association.

HOLD SHORT COURSE ON PLANT PROBLEMS

The feature of this year's program was a short course on mechanical and technical operation and plant management that was given by special speakers obtained for this express purpose. Unlike any other state association, the Nebraska Brick and Tile Association picked out the speakers it desired to have address them and paid their expenses to have them come to the meeting to lecture to the convention on matters in which they specialize. Hand in hand with this feature was another one which helped to hold the members together in order that they might obtain full benefit of the splendid course of lectures given. We refer to the promptness at which the sessions were called to order in every case. Even during the lunch hours the entire group were kept together. Owing to the splendid service rendered this association last year by Professor R. K. Hursh, of the Department of Ceramic Engineering, University of Illinois, Urbana-Champaign, Mr. Hursh was placed upon the program again this year to talk on the technical subjects relating to brick making.

Mr. Hursh took up in considerable detail such subjects as clay analysis, clay preparation, drying and burning. This course of lectures was given in about five sessions, each one of which occupied approximately one hour's time. In covering the subject of clay analysis, the properties of clays were

discussed from two angles, namely, the chemical properties and physical properties of which the latter are the most important.

CLAYS FORMED BY ROCK RECOMPOSITION

Clays, Mr. Hursh stated, are the product of rock weathering and decay. Rocks are broken down by rain, frost, and so forth, and carried away by wind or streams and carried to points where they later become deposited forming a bed of clay. No two clay deposits are exactly alike, there being as much difference in the properties of the various clays as there is in the character of human beings. The chemical analysis of clays tell what is in the clay and aids in the determination of what may be expected of the clay, but does not give any indication of the burning color, plasticity and other very important features.

Physical properties are the most important, the chief one being plasticity. Other important physical properties are fineness of grain and drying and burning behavior.

Clays are generally classified according to the color to which they burn. White clays usually contain from 1 to 1.5 per cent. of iron and include such clays as kaolin and ball clays, which are used chiefly in porcelain and pottery manufacture. They are found but in very few localities and are very valuable.

Buff burning clays contain from 1 to 2.5 per cent. of iron and include fire clays as well as some shale. The difference between white and buff burning clays is chiefly in the iron content.

Red burning clays usually contain from 3 to 30 per cent. of iron and include the largest variety of clays used in the clay products industry. They are suitable for wide uses and are very widely distributed.

Limey clays contain lots of iron and lime but the lime masks the color which would result due to the iron content, to a buff, cream or green color.

As will be noted above, the iron content of clays is a very important one, also, the physical condition in which it is present in the clay. If it is flaky or lumpy, spots are formed which will fuse and cause a black coloration or a small hole burned in the mass. The fine particles that are equally dispersed thruout the whole mass produces an even texture and even color in the ware. The various minerals found accompanying clays and the affect they have on the clay properties, were also fully taken up.

FACTORS INFLUENCING COLOR OF BRICK

One of the important topics covered in Mr. Hursh's talk was the color of brick obtained upon burning. An increase in iron usually resulted in an increase in the redness of clay. Furthermore, the temperature to which the clay is burned has considerable affect. At red heat a salmon color is obtained and until the temperature of 1,800 or 1,900 degrees is reached

the clay becomes a deeper red and with every increase in heat thereafter the clay begins to change to a purple and then a chocolate and finally to a black. Large amounts of lime and alumina would tend to make the clay burn to a buff. Furthermore, kiln temperature has also considerable affect upon the clay in that excess air tends to produce a red color while a smoky atmosphere usually produces a brown or black color.

The plasticity of the clay is best determined by feeling with the fingers. The more plastic clays absorb a considerable greater amount of water. A good deal of the die trouble, drying and working properties of the clay are directly traced to plasticity. Under the subject of drying, the various types of dryers and the importance of having proper temperatures, proper humidity and sufficient circulation in the dryer for the best efficiency, was especially emphasized.

Considerable time was devoted to the burning under which heading was discussed the watersmoking period, heating up period, oxidation period and maturing temperatures, as well as rate of cooling. One of the interesting parts of this discussion was the description of burning curves obtained by determining the absorption values in the different clays burned to various temperatures.

LECTURES ON MECHANICAL OPERATION

O. J. Whittemore, of the Department of Ceramic Engineering, Iowa State College, Ames, Iowa, gave in his lecture a discussion on power plant operation for clay plants. His talk on comparison of steam vs. electrical power, proved to be of considerable interest to those present as was the subject of individual vs. line shaft drive for various clay plant machinery.

Haulage problems was another one of the important subjects taken up by Mr. Whittemore who discussed all the various methods in vogue on clay plants to hauling clay from the bank to the plant. Included among those machines discussed by Mr. Whittemore was the electric industrial truck used for loading freight cars with ware burned in the kilns. At this point Mr. Straight told of his experience with the industrial truck which he recommended very highly. Considerable interest was displayed especially in this particular phase of the topic because of the shortage of wheelers in Nebraska and the desire to eliminate as much as possible hard labor such as that of wheeling clay products, on the part of Nebraska brick and tile manufacturers.

H. R. Straight, vice-president and general manager of the Adel Clay Products Co., Adel, Iowa, held his listeners spell-bound during his lectures on clay plant financing, advertising, accounting and labor. He advised manufacturers to guard against selling on open accounts whereby they would be paying in reality ten to twenty per cent. interest. Furthermore, he stated that he preferred to sell his ware to dealers and line yards, but thought the latter to be very slow to take up the various lines of clay ware. Those handling lumber usually make better profits in that staple, and hence it is unnatural that they push their sales in clay products.

Many Iowa dealers are now becoming building material dealers as a result of the endeavors of Mr. Straight along these lines, and fully one-third of them are now considering themselves as building material dealers rather than lumber dealers, as they previously did.

TRADE ACCEPTANCES OF GREAT BENEFIT

The use of a well planned order blank and trade acceptance was strictly urged as a procedure of material advantage to any clay plant manufacturer. In general, Mr. Straight stated that farmers abused the credit of lumber yards. By the use of trade acceptances this matter is overcome nicely and hence is looked upon with favor by the various lumber dealers. Two

per cent. discount is allowed for cash payments and no order is accepted by the Adel Clay Products Co. until the office approves it. This prevents the dealer from quoting prices to contractors which are below standard or are out-of-date.

The inner workings of the trade acceptance plan and the use of the two per cent. discount was fully explained and advantages pointed out so that every one fully understood the plan that is used by the Adel plant.

Advertising was gone into with considerable detail. The use of trade names was discussed and Mr. Straight pointed out that by advertising hollow tile under the name of "iron tile" much of their product was ordered under that name instead of building tile.

Four draftsmen are employed by the Adel Clay Products Co. to draw up plans and specifications for farm buildings for all customers. This special service has proven of considerable value to the Adel concern.

In taking up the subject of accounting, the various blanks used by his company were exhibited by Mr. Straight and each heading fully described. This system was developed during the visit of the Federal Trade Commission representative during the war period and great satisfaction is expressed in the system developed during that time.

HIRE ONLY MEN SPEAKING ENGLISH

One of the main points in the hiring of labor on the Adel plant is the fact that no labor is employed that cannot speak the English language. Full discussion of the bonus system, such as has been adopted by the Adel Clay Products Co. proved of great interest to listeners. All its advantages, as well as disadvantages, were given great attention.

Ralph P. Stoddard, secretary of the Common Brick Manufacturers' Association of America, Chicago, also graced the program and gave an interesting talk on the plans of the Common Brick Manufacturers' Association in promoting the use of common brick thruout the United States. As a result of Mr. Stoddard's description of the work to be undertaken by the new association in preparing plans and booklets and maintaining a service department for prospective builders, as well as taking considerable space in various national mediums, practically all of the members present who manufacture common brick agreed to join the national association.

One of the features of the meeting was the banquet held on Wednesday evening at which time a splendid dinner was served and every one took part in speech-making.

The election of officers resulted as follows:

President—Hugo Polenske, of Polenske Bros. and Schellak Co., Hastings.

Vice-President—H. H. Waterman, Builders Brick Manufacturing Co., Hooper.

Secretary—Frank L. Ringer, of Lincoln.

Executive Committee—J. W. Turner, Seward Brick Works, Seward; Bat Koehler, Geneva Brick Works, Geneva; F. G. Burnham, York Brick & Tile Co., York; O. T. Martin, Klose Brick Co., Lincoln, and J. Fred Smith, Smith Brick Co., Omaha, Nebr.

ROSTER

Those present at the meeting were:

Hugo Polenske and Pete Hempel, of Polenske Bros., Schellak & Co., Hastings.
John Huertz, Roseland Brick Works, Roseland.
W. H. Ferguson and Sid Kammlrohr, of the Yankee Hill Brick Works, Yankee Hill.
O. R. Martin, Klose Brick Co., Lincoln.
Jim Lanning, Klose Brick Co., Lincoln.
Mr. Greenberg, Klose Brick Co., Lincoln.
R. A. Smoot, Klose Brick Co., Doniphan.
Henry Mapes, Klose Brick Co., Aurora.
A. H. Farrens, Western Brick & Supply Co., Lincoln.
M. Stein, Western Brick & Supply Co., Hastings.
Winfield Stein, Western Brick & Supply Co., Nebraska City.
J. Fred Smith, Smith Brick Co., Omaha.
J. H. Kritenbrink, J. H. Kritenbrink & Son, Omaha.

E. W. Gruber, E. W. Gruber & Son, Ord.
 F. G. Burnham, York Brick & Tile Co., York.
 Henry Ohlson, Henry Ohlson & Sons, David City.
 Albion Ohlson, Henry Ohlson & Sons, David City.
 Ed. Ohlson, Henry Ohlson & Sons, David City.
 Bat Kochler, Geneva Brick Works, Geneva.
 H. H. Waterman, Builders Brick Mfg. Co., Hooper.
 J. W. Turner, Seward Brick Works, Seward.

C. B. Hutton, Western Brick Supply, Hastings.
 R. K. Hursh, University of Illinois, Urbana, Ill.
 O. J. Whittemore, Iowa State College, Ames, Iowa.
 Ralph P. Stoddard, Common Brick Manufacturers' Association of America, Chicago.
 Frank I. Ringer, Secretary, Nebraska Brick & Tile Co., Lincoln.
 F. L. Steinhoff, "Brick and Clay Record," Chicago.



KENTUCKIANS *see* BUSINESS AHEAD *that* WILL TAX BRICK PLANT CAPACITIES

THE ANNUAL MEETING of the Kentucky Clay Products Association was held at the Louisville Old-Inn Hotel on Wednesday, January 1, with about sixteen brick men, and several visitors, present. The meeting was one of the best attended in the history of the organization, which is only some three or four years of age.

The sessions were given over to open or round table discussions of various phases of the industry, such as production, and marketing, with numerous discussions concerning labor-saving equipment, labor conditions, and general outlook. Several of the members expressed the belief that the country was facing ten years of fat business after four years of comparatively dull business. Attention was called to the fact that the brick industry today represents larger individual units than heretofore, as thru consolidations and weeding out of the weaker producers, fewer, but larger and stronger companies have come into existence.

It is believed that in view of the big shortage of housing facilities, and steady growth of the country, in addition to increased immigration as a result of the war, that the housing demand will remain only partly filled for several years to come, and that there will be a long period of demand for property, with rentals continuing high due to the high cost of labor and material.

Discussion was heard relative to some of the bills now before the State Legislature. Attention was called to one bill which would force all large employers of men in industrial work, to provide sanitary wash rooms, dressing and locker accommodations. James T. Howington, of the Coral Ridge Clay Products Co., in discussing this matter said: "It is a step in the right direction, and it is a shame that it was necessary for the Legislature to have to pass a law to force the employers to do something that they should have been willing to do of their own accord. Personally I've failed in this matter, altho I've intended all along to put in such accommodations but have not been able to find the time to take the matter up. I believe that every large industrial concern, including the brick manufacturers, should give attention to this matter whether the law is enacted or not, and candidly I believe that it will be enacted."

STODDARD LINES UP A 100 PER CENT. MEMBERSHIP

Ralph P. Stoddard, of the Common Brick Manufacturers' Association, who passed thru Louisville a few months ago when he was making a tour of the country in an effort to secure membership and cooperation for the manufacturers' body, was present at this annual meeting, and made an excellent talk on the work of his organization, and what it is doing. He secured the membership of every brick manufacturer present who was not already a member.

A good progress story was told concerning the operations of Clark Brothers, Owensboro, Ky., with a brick plant at Mosleyville. This concern has plans for erecting a number of houses this season to be sold to employees on easy terms, in order to get them located steadily at the plant. Many

of these men are making brick in the summer, and working in neighboring coal mines in the winter, which results in fairly steady work the year around.

Several members reported movements for facilitating rapid handling in their plants. H. C. Cramer, of the Lexington Brick Co., Lexington, Ky., is installing electrically operated trucks to take the place of hand wheeling, and C. F. Herman, Tell City, Ind., has taken up the same plan. H. C. Kleymeyer, Evansville, Ind., is also installing additional machinery.

Discussion was heard relative to inaccurate quotations on brick in many sections of the country. One member stated that taking average from quotations published in a recent issue of a contractor's paper, it was indicated that the average price thruout the country was \$18.05 per thousand for common brick. However, prices are advancing at many points, and Chicago quotations are said to be decidedly under the actual market there. Attention was also called to the fact that reports indicate that New York is quoting \$24 a thousand for common brick coming down the Hudson River. A few years ago common brick men were glad to sell at \$4.50 a thousand, but prices advanced considerably, and brokers are said to be controlling a considerable portion of New York consumption. It was held that such prices would have a tendency to curtail use of brick and hurt the industry.

Reports indicated that Kentucky has become very well organized during the past year or so, altho the Western end of the state, especially around Paducah, Ky., in one of the big clay pockets has not shown any tendency to organize or affiliate. Paducah enters into competition more with Nashville than with any other Kentucky operations.

SPRING RESIDENCE WORK PROMISES ACTIVITY

In the open discussion attention was called to the very high prices of lumber, cement, steel, stone and other building materials, along with the high labor market, and general indications that prices will continue high. In Kentucky there is a considerable amount of residence work that is going to be taken up this spring, with numerous permits already issued for big strings of residences by individual contractors. There are also many large commercial and industrial projects in Louisville and thruout the state, and prospects are for a steady run of business that will tax the capacity of the brick manufacturers in filling it. The volume of competition from up as well as down river brick manufacturing plants has fallen off during the past couple of years, as many of these companies are now shipping largely by rail, and Louisville manufacturers are operating under better methods, and in position to quote prices which prevent much foreign competition, while the river trade has reached a point where it realizes that it is suicide to give its production away.

Officers elected were: President, James T. Howington, Louisville; vice-president, F. C. Klutey, Henderson; treasurer, A. F. Kleymeyer, West Point; secretary, J. Crow Taylor, Louisville; directors: J. H. Clark, Owensboro; Henry

Kleymeyer, Evansville; George D. Dalton, Hopkinsville, for terms of three years. T. Bishop, Louisville, was named a two year director to serve out the unexpired term of the late Mr. Tyler.

The brick men present were guests of the Louisville Brick Men's Association at an excellent dinner served at the hotel in the middle of the day. Otherwise there were no entertainment features of any kind, as it was a business men's meeting to discuss business.

The labor situation was discussed, but nothing of any importance was developed, other than that the brick men are endeavoring to make things easier for labor, and secure more loyal help that will stick.



New York State Factory Workers' Earnings

The close of 1919 shows a distinct gain for factory workers of New York State in the increase of their earnings relative to the increase in food prices. In December, 1918, factory workers' earnings averaged 83 per cent. higher than in June, 1914, and in December, 1919, the average increase was 107 per cent. Food prices were 89 per cent. higher in December, 1918, than in June, 1914, and 99 per cent. higher in December, 1919. This means an average increase during the year of 13 per cent. in factory workers' weekly earnings as compared with 5 per cent. increase in food costs.

These facts appear in the comparison of the index numbers of the retail cost of food, furnished by the United States Bureau of Labor Statistics, with the average weekly earnings of the employes of 1,648 manufacturers of New York State, by the Bureau of Statistics of the State Industrial Commission.

Reviewing the movements in the earnings of factory workers during the past year, it appears that abrupt decreases occurred during the first months of the year, due chiefly to the elimination of overtime work, which had been prevalent during 1918, and to part time work in some cases. This was accompanied by reductions in the number of workers employed. The low mark for weekly earnings was reached in most of the chief industry groups in January, February or March. The decline in the metal industries continued to June. After the first quarter of the year, numerous increases in rates of pay were reported, but for a few months these were largely offset by reductions in the number of regular working hours. Since July, fewer changes in regular hours were reported, and with the gain in factory operations, wage rate increases became more numerous. The result was a rapid upward movement in the average weekly earnings of factory employes during the last five months of the year.



A new brick plant representing an investment of something over \$50,000 is being launched at Grenada, Miss.



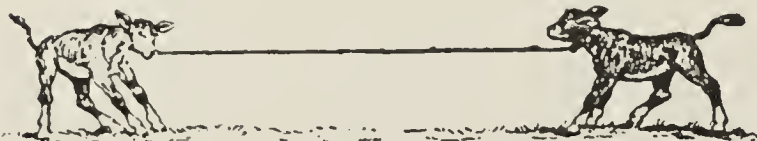
A COOPERATION MOVIE *in* EIGHT REELS



Anticipation



Provocation



Recrimination



Exasperation



Demoralization



Consultation



Cooperation



Compensation

"Can't Brick and Tile Manufacturers be as Wise as These Calves?" Is the Thought of C. F. Miller, of the Darlington (Pa.) Brick & Mining Co., Who Sent the Above Cartoon to "Brick and Clay Record."

The ELUSIVE FOUR HUNDRED

Showing How the Same Apparent Costs May Be Obtained When There is in Reality a Very Great Difference in the Real Costs

By G. W. Greenwood

Treasurer, United Refractories Co., Uniontown, Pa.

“WELL, BALDWIN,” said Barnes, sauntering in and seating himself familiarly on the desk of the sales manager, “How is that microscopic garden of yours coming on by now?”

“Fine,” said Baldwin, moving an inkstand out of harm’s way and leaving a bottle of mucilage to wage its own battle. “I have learned a lesson in efficiency which ought to appeal to your scientific instincts. I learned it at the apartments we used to occupy.”

“What is it?” asked Barnes with some show of interest.

“I have decided to save space by putting in folding beds.”

“Then you are just the fellow I’m looking for to help unfold some ideas imbedded in my cranium. Last month at the Clayton plant there were eight hundred thousand paving blocks removed from the kilns. Of these, two hundred thousand were loaded directly onto the cars, and the remaining six hundred thousand were put into stock.”

“And do you know why?” interrupted Baldwin. “I’ll tell you. They kept right on making hillside blocks when all the signals were set for plain, straight blocks. Instead of making what we can sell, they think we should sell what they choose to make.”

JUDGING SELLING ABILITY

“Why not follow the advice of the merchant who told his son when he sold something a man wanted, such a performance required no selling ability, but that when he sold a man something he didn’t want, that was business. Why not sell what we have, whether the customer wants it or not?”

“Not on your life. Real service consists in selling a customer what he really needs, and in objecting to selling him what he doesn’t need, regardless of his expressed wants. But proceed with your sermonette. The text you announced for your light discourse was the shipping of two hundred thousand and the stocking of six hundred thousand.”

“I ann-ounce my light remarks. I pro-pound my weighty ones,” admitted Barnes. “What I wish to ask is this: if the six hundred thousand had been shipped and the two hundred thousand stocked, what change would it have made in last month’s costs?”

“What is the difference between the rates for loading direct on cars and for stocking?” asked Baldwin, opening a drawer and taking out a pencil.

“The rate is the same in both cases,” answered Barnes.

“Then I can see little sense in your question. Interchanging these two amounts would make no change in the total operating costs for the month. It reminds me of some lines from Lewis Carroll’s writing, somewhat like this:

The next thing I remember, I can’t exactly fix;
But I was sitting on the floor,
Repeating, Two and Three make Four,
But Three and Two make Six!

“It seems to me a good bit like asking if there is any difference between six and two as compared with two and six.”

“You’d find a lot of difference if you were in England, and were charged six and tuppence for an article marked two and six. But from one point of view, your contention is correct. In the usual method of mis-handling costs, where the sum of the operating costs is divided by the output, it would not show any difference whatever.”

“I question your application of the word ‘output.’ I think one can more properly call the quantity shipped during the month the output for the month, than he can the brick made. But where is your objection to this plan?”

“Let me ask you a question first. Normally, what percentage of the brick drawn do you feel should go directly on board cars?”

“On a conservative basis, fifty per cent.,” suggested Baldwin.

HANDLING COSTS ON A BUDGET SYSTEM

“Then assuming for simplicity a cost of one dollar per thousand for stocking and for loading either from kilns or from stock, we would normally have a charge of one dollar fifty for drawing and rehandling. Perhaps I had better explain here that we are now handling costs on a sort of a budget system. When the brick are made, a charge is made to cover the operating costs—at least to cover standard operating costs—and the elements constituting this cost comprise a budget against which charges for subsequent operations are assessed. Now, on the basis of an assumed standard of loading half of the brick directly on the cars, and of running the other half into the stock sheds and out again, we set up a credit of one dollar and a half for each thousand brick. In the example we are considering, we set up a credit of \$1,200 to cover the assumed cost of handling these eight thousand brick from kiln to car, either directly or first into the stock shed and then to the car. In actually loading two hundred thousand and stocking six hundred thousand, at a dollar per, we consume \$800. When the six thousand are eventually loaded, we will have another \$600 charged. All the budget is gone, and \$200 in addition. Now what happens when the six hundred thousand are loaded directly and only two hundred thousand stocked?”

“Go ahead. You’re better at figures than I am,” said Baldwin, evincing considerable concern as he wrapped one long extremity around the other.

“Why, to the \$800 for the current month’s charges, there will be a charge later of only \$200 for loading the ones from stock. There will be a surplus of \$200 left out of the \$1,200 set up in forming the standard cost. In the other case, there was a deficit of the same amount.”

“In other words,” mused Baldwin, “instead of there being no difference at all in the costs under the two sets of con-

ditions, there is actually a difference of \$400. So that, in cold dollars, is what it set us back by not having on hand in time the press boxes necessary to change off from hill-side block to straights. That would buy a good deal of equipment, even at present prices. But is it really possible that a difference of several hundred dollars can exist in the costs for a single month and no trace of it be shown by current cost keeping methods?"

"That's the trouble. We use cost keeping methods instead of cost finding methods. But you yourself declared at the start that there could be no difference in the two costs for the month. Now on the basis of rehandling one-half of the brick drawn from the kilns, it is possible to find the net gain or loss as compared with the standard by a simple little equation in algebra. Just fish me out one of your cherished pencils, won't you?"

"No use. When it comes to algebra I'm hopelessly stuck," declared Baldwin.

Barnes started to slide off the desk, thought better of it, and replied, "You're not stuck any more than I am."

* * *

Gain of 86% in Average Annual Wages

In connection with a series of investigations made by the Bureau of Industrial Statistics of the Department of Labor, Trenton, N. J., covering conditions in important industries of the state, it is shown that between the years 1914 and 1918, sixty-one brick and terra cotta plants formerly paying \$539.85 as an average annual wage, are now paying on an average of over \$1,000 as the yearly wage, the exact gain being 86 per cent.

* * *

Try to Remove Head Tax and Literacy Test

The House Immigration Committee, on February 2, tabled a resolution by Representative Hudspeth, which would have permitted bringing in temporarily of Mexican farm laborers for work in Texas, New Mexico and Arizona. Also tabled a substitute to remove head tax and literacy test in contract labor from Mexico, Canada, Porto Rico and West Indian countries. Delegation from Hawaii, appearing before the Committee, requested modification of immigration laws to permit 40,000 Chinese coolies to enter for work on sugar and rice plantations.

* * *

Brick Manufacturers Coming Into Their Own Due to Boom In the South

Conditions in New Orleans, La., as far as building construction is concerned, have never looked better. There is at present about \$17,000,000 worth of work under construction in the city of New Orleans. There is in contemplation about \$19,000,000 worth of work to start during the present year. This is exclusive of the work being done on the Industrial Canal at New Orleans, which is costing approximately \$20,000,000.

The brick market in New Orleans remains firm, and the price for brick is about the average price for brick charged in the United States, which is around the twenty dollar mark. There has been no excessive demand for brick as yet, according to F. W. Salmen, president of the Salmen Brick & Lumber Co., Ltd., manufacturers of brick, with a present capacity of about 225,000 brick per day. This company is arranging to eventually double its capacity, so that it does not seem that there will be a chance for a brick shortage in that vicinity.

There are also two plants, operating in Mississippi, which are shipping brick into New Orleans, and there are plants in Louisiana also shipping into that city.

Louisiana, at the present time, is practically undergoing more construction work than any other state in the South. Besides its tremendous lumber interests, which are the first in the country, it is coming into its own as an oil producing state.

There is quite a boom on at Shreveport, La., at the present time, and brick plants from the vicinity of New Orleans are being asked to ship brick in to that city, for which they are paying as high as \$25 to \$30 a thousand, delivered at Shreveport.

The Delta country in Mississippi is very prosperous at this time, owing to the tremendous crops that have been raised, and there is a good deal of construction work going on in this vicinity.

There is a general feeling among the construction people of the South that the brick people will soon come into their own, as the lumber forests of the South are fast becoming extinct; and in the course of ten years or so, there will be very little lumber produced in this section of the country.

* * *

Export of Ceramic Products—New York

Officials at the Port of New York have completed a tabulation covering the exports from this point during the month of November, 1919. In the matter of various ceramic products, the figures are as follows:

Fire Brick: Total, \$18,841. The principal shipments were made to: Cuba, \$6,674; San Domingo, \$4,318; Chili, \$3,785; Mexico, \$1,513; British Guiana, \$750; and Japan, \$979.

Common Brick: Total, \$3,731. The shipments were to: Cuba, \$640; British Guiana, \$2,720; and San Domingo, \$371.

Chinaware: Total, \$19,156. The principal shipments were to destinations as follows: England, \$1,550; Mexico, \$1,134; Jamaica, \$1,348; Cuba, \$4,766; San Domingo, \$2,048; Argentina, \$998; Brazil, \$1,039; Ecuador, \$1,022; and Colombia, \$862.

Earthenware: Total, \$25,347. The most important shipments were to: Norway, \$2,799; British West Indies, \$3,822; Cuba, \$1,874; Mexico, \$1,518; Hayti, \$6,436; Argentina, \$1,925; Guatemala, \$715; and San Domingo, \$894.

Tile: Total, \$10,491. The principal shipments were to: Cuba, \$5,248; San Domingo, \$483; Japan, \$1,303; Chili, \$340; and Uruguay, \$478.

Fire Clay: Total, \$1,774. Primary shipments to: Cuba, \$467; San Domingo, \$480; and Jamaica, \$182.

During this same month the imports of china clay from England at the port totaled \$2,989 (218 tons), and other clays from the same point, \$3,924 (395 tons).

* * *

Evening Courses in Building Work

Anticipating the building boom during the coming months at New York, now so freely prophesied by those in the industry, the College of the City of New York has inaugurated a series of courses of instruction in building work. Sessions will be held for a period of 16 weeks, effective February 2, covering evening periods for three-hour terms. The course is designed to interest those in all branches of the trade, ranging from materials to advanced topics, and different evenings will be given over to the various phases; the fee ranges from \$15 to \$25 for the different branches, with total charge of \$45 for the complete course. The work is under the general supervision of Professor Frederic O. X. McLoughlin.

UP - T O - D A T E SOFT-MUD BRICK MAKING METHODS

A General Description of the Mode of Manufacture in Use in Modern Canadian Plants

By William Burgess

Superintendent, Don Valley Brick Works, Todmorden, Ont. Paper Read at Annual Meeting of the Canadian National Clay Products Association, Toronto, January 21

SOFT MUD BRICK, or perhaps a better name would be stock brick, grey or red—just whichever color your clay will burn, is the subject of this article. There has been rapid advancement made in the manufacture of this brick during the last 10 or 12 years. I might say that the advancement has been wonderful, graduating from the open or sun drying yard to the present steam dryer plant working 300 days in the year instead of only 100 days a year, as formerly.

In place of digging the clay by hand during the winter and letting the frost disintegrate it until summer comes, it is now dug with a modern steam shovel, dumped into a granulator or pug mill, and made into brick in a few minutes after leaving the clay bank. This method of working the clay has demonstrated conclusively that the extra pugging has made a marked improvement upon the brick, wherever it has been tried.

In some plants in Canada the brick are conveyed to the dryers on a cable and set off on pipes to dry. Other plants use rack cars on which pallets holding brick are loaded on cars and placed in dryer tunnels, the drying taking from 24 to 36 hours and I have heard of some drying the brick in less time. These systems have been found very satisfactory, and where it formerly took 7 or 8 men to make 12 to 15 M. brick per day, the same number of men can now make from 30 M. to 35 M. in 8 hours, and I have seen machines making as many as 50 M. in 8 hours with 4 men, and I venture to say further, that better brick are made today than were formerly made.

In place of burning brick in scove kilns, as done a few years ago, they are now burned in down-draft kilns of large capacity. They are also burned in continuous kilns with a large percentage of face brick and no arch brick, as formerly got in scove kilns.

GATHERING OF YOUR CLAY

Human labor has its advantages. But the shrewd business man never depends on it when he can obtain mechanical devices to do his work, because he knows that man power cannot compete on a cost basis, nor on a time basis, with mechanical means. The old-fashioned way of getting out clay for soft mud brick manufacture was the laborer behind a pick and shovel, digging clay during the winter months when it was frozen, wheeling it into a pile to

freeze more, believing that to be the only way by which he could make soft mud brick with it. That was a slow and expensive method.

I believe the best clay digger is a steam shovel, when you have a clay bank of the best working height. I find a clay bank best to work at all times should not be more than twenty feet high when you are operating a steam shovel. Twenty feet is a convenient height of bank to work at all times, and more especially in hard freezing weather, because you can strip a piece of the face of your bank each day and reach from bottom to top without leaving a lot of frozen clay above the height of your boom reach as you would have to do if you had a higher bank. If you have any loam or sand on top of your clay, it pays to have it thrown down over your loose clay each night when it is freezing.

I would say that clay dump cars holding from one to two yards of clay are a very convenient size of car for an ordinary sized yard, but be sure and have your rails at least 30 lb. per yard, as a great deal of valuable time is lost thru having too light a rail. The kind of power you use to haul your cars depends on the layout of your plant.

PUGGING THE CLAY

What do we expect the pug mill to do? We want it to work up the clay into a tough, plastic state. This cannot be done by simply cutting the clay up and adding water to it, and each knife simply pushing it along so that the other knife can reach it and do the same thing. This is not pugging—it is only turning the pug mill into a conveyor.

In order to pug clay, it must be squeezed into itself. To do this while passing thru the mill, there must be places where it is retarded or made to travel slower than other places so the clay where it travels fast will overtake and press into the slow traveling clay. This can be done in different ways, such as having the knives set so as to press down as well as forward, and by having straight knives at intervals. The same results can be obtained by having every other knife half worn out, or short, the next knife, being long, presses the clay past the short one.

Some pug mills have an adjustable slide at the discharge so as to retard the clay. It is a good way, but two or three more short knives on the end of the shaft answer

the same purpose. Successful pugging does not depend on the length of the mill so much as to how it pugs. Long pug mills, when they are made to work more like a conveyor than a pug mill, will not do as good work as a short pug mill made to work properly.

It is not good to retard the clay too much, as that puts undue strain in your gear and shafting. When the belt commences to slip, provided it is reasonably tight, that ought to be warning enough for us. We ought to know that when the mill commences to fill up that the knives are getting worn and that new knives should be put in at once. It is a good practice to put in only a part of the knives new at a time. This is better than putting in all new knives at one time. The clay should be supplied thru the pug mill in quantities to suit the capacity of your machine, not too fast so that it will arch over, nor too slow as to cause your machine to run empty.

I think one of the greatest helps to pugging any clay is rolls, straight face, if you have no pebbles, will do, and conical rolls if you have pebbles or small stones, and if you have no pebbles, conical rolls will do the work. Have the face of your rolls good and true set to run about $\frac{1}{4}$ -inch apart so that they will give the clay a good squeeze in passing thru.

It is desirable to have a good reliable man on the pug mill. There are no mysterious secrets about letting in enough water to make your clay work right on the machine. But you will require a man of ordinary intelligence who will pay attention to his work.

MACHINING

The machine end is only secondary after you have pugged the clay properly. There are several good types of machines for the making of soft mud brick, making all the way from 20 M. to 50 M. per day of eight to nine hours.

DRYING

Drying the brick comes next in importance to pugging the clay. Some of the main points in a perfect dryer are summed up as follows:

- (1) Flow of air to be proportioned so that drying takes place at top and bottom of tunnel equally.
- (2) Keep the temperature difference between top and bottom of tunnels down to a minimum.
- (3) Have every cubic foot of warm air do its duty by coming in contact with as much "moisture imparting" material as possible. The ideal dryer is one of the long tunnel type, where the brick gradually move from the loading end to the discharge end, and have the air enter the tunnel in as dry a state as possible for its temperature, and have it leave the dryer in as highly a saturated state as possible. Taking in consideration the decrease in temperature between the in-going and the out-going ends, which should be kept at a minimum, in order to have the air absorb a maximum amount of moisture, it must come in contact with as much of the brick to be dried as is possible, for air takes up moisture by convection, and the currents of air must be broken up as much as they can be by the brick to be dried without retarding its even flow. It takes time to get your dryers right, which can be solved by individual treatment and a long and varied experience. Take, for example, in a tunnel dryer, where sometimes the air is compelled to move a distance of 100 feet in a horizontal direction, the difference in temperature between the bottom and top of the tunnel is sometimes as much as 10 to 15 degrees Fahr. hotter at the top than at the bottom of the tunnel, consequently, the brick will dry faster at the top than at the bottom of the tunnels.

Due consideration must be given to the cooling surfaces of the tunnel, that is, the roof, side walls and ground.

The reason why some brick are harder to dry than others is owing to the fact that there is a difference in the ease with which the water they contain can be removed by evaporation. The drying of soft mud brick by the waste heat process is a comparatively simple proposition provided your clay is anywhere near the average in quality as to plasticity, porosity and moisture, and does not come under the class of tender clay. The drying of tender clay, however, is a much more difficult problem. While the builder of your dryer must make special provision for the handling and drying of your particular product, much more depends upon your own careful handling of the means placed at your disposal. Necessarily it takes longer to dry brick made of tender clay, and the expense, is, therefore, greater, but the careful brickmaker soon learns the peculiarities of his clay and tempers his heat so as to get the most satisfactory results. It is sometimes necessary in handling tender clays to add a proportion of sand with the clay to make them less liable to crack in the process of drying.

KILNS

All kilns should be filled to capacity and as nearly as possible up close to the crown, and the setting so arranged that the ware may be burned evenly, without spending too much time in "soaking"; much valuable kiln space is lost and much fuel wasted in not filling the kiln to capacity. Experiment and see how high your ware can be set with good results. Set ware well over flue openings, close up to the walls to prevent short circuiting from bags. Do not set wet or partially dried ware, as this practice lengthens the time of burning and increases the fuel consumption. If the kiln is not a good dryer, run peep holes thru the kiln near the floor in order to determine during the burning how the different parts heat up. The more uniformly a kiln gains heat, the less fuel will be required.

It costs a great deal more to equip a soft mud plant today than it did 15 years ago, but unless you equip your plant right up to date with steam shovel, granulators, conical rolls and proper pug mill and machine, cars, good pallets, proper tracks and a good type of dryers, and take your clay direct from bank to machine, your competitor will get ahead of you.

Go out and see what the other fellow is doing and go him one better. I firmly believe that soft mud brick will continue to hold their place in the brick world, in spite of all other processes which have come against them.



American Chemical Society Elects Chairman

Dr. Edward W. Tillotson, assistant director of the Mellon Institute of Industrial Research, who won international fame thru his investigations of the physical and chemical properties of glass, with reference to the constitution of glass, has been elected chairman of the Pittsburgh Section, American Chemical Society, it was announced recently. Dr. Tillotson has been assistant director of the Institute seven years. He is in supervisory charge of researches on glass and refractories.



An Addition to Our Calendar Collection

J. J. Fitzgerald & Co., manufacturers of clay products at Second and Butler Streets, Philadelphia, Pa., have just issued a calendar for 1920 which every American would feel proud to have on the walls of his office or home. It is a good sized calendar with a reproduction, in colors, of the portrait of General Pershing.

FINE CERAMIC MANUFACTURE



A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products Such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

FELDSPAR AS A POTTERY MATERIAL

By Homer F. Staley

Ceramic Division, Bureau of Standards, Washington, D. C.

FELDSPARS ARE HARD, crystalline igneous rocks. Chemically they are compounds of silica and alumina with the bases potash, soda and lime. The composition of the important pure types is as follows:

Trade Names Mineralogical Names Chemical Formulas	Potash Feldspars Orthoclase and Microcline K Al Si ₃ O ₈ or K ₂ O. Al ₂ O ₃ . 6SiO ₂	Soda Feldspars Albite Na Al Si ₃ O ₈ or Na ₂ O. Al ₂ O ₃ . 6SiO ₂	Lime Feldspars Anorthite Ca Al ₂ Si ₂ O ₇ or CaO. Al ₂ O ₃ . 2SiO ₂
PERCENTAGE COMPOSITION			

Silica SiO ₂	64.7	68.8	43.3
Alumina Al ₂ O ₃	18.4	19.4	36.6
Potassium Oxide K ₂ O	16.9	...	...
Sodium Oxide Na ₂ O	...	11.8	...
Calcium Oxide CaO	...	...	20.1

It is seldom, however, that feldspars are found corresponding to these type of formulas. Two or more of these typical feldspars may be found mechanically mixed in the same deposit, or even intergrown in the same crystal. In fact, the ordinary feldspars of commerce contain not only a mixture of feldspars, but other minerals as well.

Potash feldspar occurs in two mineral forms, orthoclase and microcline. Contrary to popular belief, microcline is the more common of these two. For practical purposes they may be regarded as identical, since they have the same chemical composition, and are similar in most of their physical properties. Soda may partly replace potash in these feldspars. The color may be white, pearl gray, light yellow, light green, or any shade of red from pink to brick red. Potash feldspars break readily into angular fragments showing two distinct cleavage planes intersecting approximately at right angles. The surfaces have a brilliant glossy lustre. A third, less prominent, cleavage plane is sometimes noticeable. The hardness corresponds to 6 in Mohs scale, so that the mineral can be scratched with a knife blade only with difficulty. The specific gravity varies from 2.54 to 2.56.

Potash feldspars do not melt suddenly, as do many minerals and practically all metals, but undergo gradual fusion. In the Geophysical Laboratory of the Carnegie Institute,¹ it was found that powdered microcline started to sinter at 1,000 deg. C. (1832 deg. Fahr.), formed a solid cake at 1,075 deg. C. (1,963 deg. Fahr.) and became a viscous glass at 1,300 deg. C. (2,375 deg. Fahr.). The true melting point, that is the temperature at which the feldspar lost its crystalline

character and became an amorphous glass, was determined to be about 1,200 deg. C. (2,200 deg. Fahr.). When made up into cones and heated with Seger pyrometric cones, potash feldspar deforms along with Seger cone 9. The presence of soda feldspar lowers the fusion point, the most fusible mixture, 70 per cent. albite, 30 per cent. microcline, deforming before cone 6.²

Pure soda feldspar, albite, is seldom found, part of the Na₂O usually being replaced by lime or potash and lime. Its color is usually white to pale green, altho it may be reddish or gray. It has a hardness of 6 and a specific gravity of 2.6. Two distinct cleavage planes are noticeable, but these intersect at an angle of 86 deg., instead of 90 deg., as is the case of potash feldspars. The surfaces of the most brilliant of the cleavage planes is marked by faint straight striations. Like the potash feldspars albite fuses slowly to a viscous glass. The true melting point is between 1,200 deg. C. (2,200 deg. Fahr.) and 1,200 deg. C. (2,350 deg. Fahr.). When tested in comparison with Seger cones, albite deforms along with cone 7.

Lime feldspar, anorthite, is rare but there is a continuous series of lime-soda feldspars, known as plagioclases, ranging from albite at one end to anorthite at the other. The member of this series most commonly used in ceramic work is oligoclase, which when pure has the composition: Lime (CaO) 3 per cent., Soda (Na₂O) 10 per cent., Alumina (Al₂O₃) 22.1 per cent., Silica (SiO₂) 64.9 per cent. In fact most so-called soda feldspars approach more nearly to oligoclase in composition than they do albite. The high soda plagioclase feldspars conform closely in color, crystalline forms and physical properties, to albite. The specific gravity increases with calcium content, and the true melting point is also raised. However, since lime tends to produce very fluid glasses, the fusion point is not raised until the lime content becomes quite high. High lime feldspars are seldom used in ceramic work because they make very fluid, easily crystallizable glasses.

While the intensity of the color in fresh feldspar is no indication of the color which the fused feldspar will have, yet it is not true that dark feldspars fuse to as perfectly white glasses as do the colorless varieties. In general, the feldspars that fuse to the most nearly colorless glasses are the pure white or colorless varieties; then come in order the pale salmon, cream, brown and buff, and finally the sea green and olive green varieties.³ Even slight carelessness in separating colored impurities from the feldspar or contamination during grinding may have far greater effect on the color of the fused feldspars than does the variation in tint of the minerals themselves. Red feldspars are pink when ground, but the cream colored and white feldspars are nearly pure white.

GEOLOGICAL OCCURRENCE

Feldspars are among the most widely distributed minerals.

Editor's Note:—Presented at the Annual Meeting of the New Jersey Clay Workers' Association and Eastern Section of the American Ceramic Society, New Brunswick, N. J., December 18, 1919.

¹Day, A. L., and Allen, loc. cit., pp. 420-6.

²Watts, A. S., Bulletin 92, U. S. Bureau of Mines, p. 35.

³Watts, A. S., Bulletin 92, U. S. Bureau of Mines.

They occur as constituents of nearly all rocks and soils. In all soils and in most rocks, the feldspar is in too small grains and too intimately associated with other minerals to be economically separated. Commercially valuable feldspars usually occur as constituents of igneous rocks of extremely coarse texture, known as pegmatites. These pegmatite masses may vary from bands a few inches wide to great masses half a mile wide and over a mile long. They seem to have been intruded as molten masses along the planes of easiest fracture in the surrounding rock, and therefore very irregular in form; but most of them are lens-shaped. When the pegmatite mass stands nearly vertical it is called a dike. When it approaches the horizontal position it is called a sill.

Pegmatites vary greatly in coarseness. Some are fairly fine-grained, while others contain single crystals 20 feet across.⁴ It is in the fairly coarse grained deposits only that the feldspar can be separated economically, and such deposits are rather rare. The texture of pegmatites is very irregular, a gigantic crystal being liable to occur in a mass of small ones.

Graphic granites are fine grained pegmatites consisting of intergrowths of large single crystals of quartz and feldspar. Fine-grained outcrops of graphic granites may pass into coarser granite and this into either pure feldspar or pure quartz. It has been found that the proportions of quartz and feldspar in these graphic granites run quite uniform, the quartz varying from 20 to 30 per cent. of the whole.

The feldspar-bearing pegmatites usually contain the following minerals in addition to the feldspars: quartz, muscovite (white mica), beryl, biotite (black mica), black tourmaline, garnet and magnetite. The proportions in which these minerals occur vary greatly in different deposits and even within a few feet in the same deposit. A deposit yielding good feldspar may change suddenly to a worthless mixture, high in quartz or iron bearing minerals. A feldspar is rendered off grade in color by the presence of only a few per cent. of the iron minerals. White mica and beryl do no particular harm, but are hard to grind. Variation in the kinds of feldspar and the amount of quartz is a very serious problem, since these variations are quite common and affect the working properties of the mixture made with the feldspar.

WINNING AND PREPARATION

Most feldspar is quarried from open pits, altho sometimes short tunnels are run from the pits. The most nearly pure feldspar is piled in long rows and is sorted by men known as "cobbers" who go over the pile with hammers and break off the impure parts. The feldspar is then piled in the open for a few weeks in order that any adhering dirt may be washed away by the rain.

The crude feldspar is hauled to the mill, then dried, if necessary, and either reduced to one-inch size in an ordinary rock crusher or broken to about four-inch size with hammers. The objection to the rock crusher is, of course, contamination by iron. The coarse material is crushed to pass a 10-mesh sieve in a buhr-stone chaser mill. This mill consists of a large granite disc laid flat on which two large granite wheels, 5 or 6 feet in diameter and 12 to 18 inches thick, run in a circular path. It is a crude machine but its use avoids contamination with metallic particles. From this machine the feldspar goes to ball mills or tube mills for fine grinding. From these it is bagged or sent to stock sheds, no sieving or bolting being practiced.

GRADING

The large majority of feldspar deposits in this country

are quartz-bearing pegmatites and the product from these quarries is graded as follows:

No. 1. Free from iron bearing minerals, contains little white mica and not over 5 per cent. quartz.

No. 2. Nearly free from iron bearing minerals and white mica, may contain up to 15 or 20 per cent. quartz. This grade is also known as "standard."

No. 3. Not carefully selected, contains higher percentages of iron-bearing minerals, white mica and quartz.

In southeastern Pennsylvania and the neighboring parts of Maryland, soda feldspar is mined from pegmatites that are free from quartz, the chief impurity being hornblende. This feldspar is graded according to its freedom from iron bearing minerals as follows:

No. 1. Carefully selected, practically no impurities.

No. 2. Not so carefully selected, small amounts only of impurities.

No. 3. Not so carefully selected, contains enough iron bearing minerals to render it decidedly off color.

The No. 1 and No. 2 grades are generally ground in the fine grinding machines for 4 to 6 hours and the No. 3 grade is ground only 2 to 3 hours. As shown by Keele,⁵ the finer feldspar is ground the more effective it is as a flux in pottery bodies. Keele's experiments indicate that 15 per cent. of 200 mesh feldspar will produce the same degree of vitrification as 20 per cent. of 100 mesh feldspar.

In pottery bodies, the feldspar is the constituent relied on to cement the ingredients together at high temperatures. If present in coarse grains it will have to flow to fill the various pores, and reach the grains of quartz and clay that it is to cement together, but if finely ground it will merely have to soften in position. It follows, then, that the finely ground feldspar requires less heat treatment to mature a pottery body, that such a body does not approach so near to fusion, and that the tendency to bending and warping is much reduced.

Time appears to have an effect on the amount of vitrification that feldspar will produce in a clay body at various temperatures. It seems very probable that if a sufficient length of time were allowed at the temperature of cone 5, that a degree of vitrification would be arrived at equivalent to that attained at cone 9 in short-time burns.

CHEMICAL ANALYSES

Analyses of feldspars published in geological surveys, and often those given out by feldspar dealers, are of little value to feldspar users, since they are generally made on hand-picked samples of pure rock. Of course, in mining feldspar the producer gets a mixture of minerals. In fact, it is common practice to blend feldspar from different parts of the same deposit or from different deposits to produce as large an amount as possible of feldspar that is not too impure to be salable. Below are given some analyses of commercial ground feldspars. Of course, the feldspars marketed from the same quarries the next month might be of different composition.

ANALYSES OF COMMERCIAL GROUND FELDSPARS

	I	II	III	IV	V	VI	VII	VIII
Silica (SiO ₂)	76.37	65.87	65.73	69.05	69.45	65.50	68.20	71.07
Alumina (Al ₂ O ₃)	13.87	19.10	19.28	17.40	16.76	21.17	18.17	16.23
	(a)	(a)	(a)					
Ferric Oxide (Fe ₂ O ₃)				.15	0.20	0.18	.66	0.53
Lime (CaO)	.26	.20	.22	.12	0.45	0.87	.38	0.43
Magnesia (MgO)	.00				0.45	1.40	.26	0.24
Potash (K ₂ O)	5.24	12.24	10.26	10.03	9.80	8.98	10.18	8.24
Soda (Na ₂ O)	3.74	2.56	4.08	2.97	2.60	1.00	2.60	2.98
Loss on Ig.	0.30	0.64	0.48		.28	0.15	.59	.39

(a) Including small amounts of iron oxide.

1. Bulletin 420, U. S. G. S., page 9. Ground feldspar, No. 3 grade from near Bedford, New York. Analysis by Geo. Steiger, J. S. G. S.

⁴Bastian, E. S., Bulletin 420, U. S. G. Survey.

⁵Trans. A. C. S., Vol. 13, pp. 731-745.

II. Bulletin 420, U. S. G. S. Ground feldspar, No. 1 grade from Bedford, Ontario.

III. Bulletin 420, U. S. G. S., page 24. Ground feldspar, No. 1 grade from Auburn, Me. Analysis made by U. S. G. S.

IV. Bulletin 92, U. S. Bureau of Mines, page 18. Pennsylvania potash feldspar. Ground commercial feldspar, 1910. Grade not stated, analysis made by D. J. Demorest.

V. Trans. A. C. S., Vol. XVI, pages 88 and 212. Number 2 potash feldspar from near Bedford, New York.

VI. Trans. A. C. S., Vol. XVI, page 212 Soda feldspar.

VII-VIII. No. 1 grade Maine feldspar. Analysis made by J. C. Evans, U. S. Bureau of Standards. These analyses show the extreme variations of five shipments received at the Bureau of Standards, Clay Products Laboratory, during the two years extending from the summer of 1915 to that of 1917.

The approximate mineral composition of these feldspars as calculated from the ultimate analysis are as follows:

MINERAL COMPOSITION

	I	II	III	IV	V	VI	VII	VIII
Potash feldspar	30.58	72.28	60.60	58.32	58.70	8.00	60.22	48.80
Soda feldspar*	32.83	22.59	35.69	25.74	25.15	83.86	23.98	27.33
Quartz	34.37	3.84	2.22	10.29	16.15	10.14	11.97	19.49
Other constituents	1.93	1.86	1.50	4.65	....	....	3.87	4.48

*Including small amounts of lime feldspar.

It is evident from analyses I, V and VIII that the free quartz in some commercial feldspars runs quite high. It is also shown by analyses III, VII and VIII that the variation in the composition of the feldspar of a given grade and brand may be great.

METHODS OF TESTING AND BLENDING

The foregoing outline of the geological occurrence and the methods of winning and grinding feldspars is given to emphasize as much as possible a fact that is of great economic importance to the ceramic industries, namely, that commercial feldspar is a very changeable commodity. Not only is it liable to change from car load to car load but even from bag to bag. Yet potters habitually buy their feldspar by brand names and assume that they are getting a definite product. Quite often they are satisfied to order simply by the name of the state from which the product is to come, as Maine feldspar, Connecticut feldspar, and let their purchasing agent or jobber secure the material at the lowest price. It is evident that potters as a rule get a variable supply of feldspar.

In No. 1 and No. 2 grades of feldspar, the producers attempt to control the percentage amount of quartz within rather wide limits, but they do not attempt to control the variations in the relative amounts of the different feldspars present: In the No. 3 grade they do not attempt to control either.

While most potters have realized that they were having trouble from variations in their feldspar, many have not understood how to overcome this. Chemical analyses are slow, expensive and really of little service. An analysis may tell the potter that a given car load of feldspar has a different composition from the one he has been using, but it will not tell him how to alter his mix to overcome this difference. If he is skilled in chemical calculations, he may compound a mix with the new feldspar that has the same chemical composition as his old mix, but, owing to the difference in physical condition and chemical combination of the ingredients in the two mixes the new one is very likely to act differently in the fire from what the old one did. As shown by Minnemann⁶ fusion point determinations are of little value in judging the quality of a feldspar, for the presence of as much as 20 per cent. quartz has little effect on the

melting point. Of course, it has a decided effect when the feldspar is used in a pottery body or glaze. A skilled potter can obtain usable results rather quickly by incorporating the new feldspar in various proportions into trial mixes and studying the behavior of these in the fire. However, no potter can afford to take the risk of introducing a practically new mix into his shop every time he gets a new shipment or new carload of feldspar. Moreover, as we have pointed out, from the very nature of its method of occurrence and preparation, the different parts of the same shipment of feldspar or even two adjacent bags may differ in composition.

The most practicable solution of the feldspar problem for potters seems to be to adopt the methods that have been used by some of the potters for many years. These are as follows:

1. The purchase of no feldspar of grade poorer than No. 2, from reputable producers, and insistence that the material furnished be up to grade.

2. The use of at least two brands of feldspar in each mix, the amount used of each brand being taken from two different shipments.

3. Thorough testing in trial melts of each new shipment of feldspar to determine what change, if any, should be made in the mix to accommodate it to the new feldspar.

This method of blending feldspar reduces the effect of variation in any particular shipment to not over one-fourth what it would be if the shipment were used alone. Moreover, the variations of different shipments and brands tend to be averaged and so to neutralize one another. Care should be taken to see that it is not necessary to start the use of more than one new shipment at a time.

SUBSTITUTES FOR FELDSPAR

In England, and to some extent in America, Cornwall stone, sometimes called Cornish stone or simply "stone," is used in place of feldspar. It is a pegmatite that has been partially decomposed by the action of fluorine gases. It consists largely of feldspar, silica, kaolin and white mica, with a small percentage of fluorspar. It is rather variable in composition but generally contains 4 to 6 per cent. of potassium oxide, 2-3.5 per cent. sodium oxide and 0.5 to 2 per cent. calcium and magnesium oxides. The silica runs from 70 to 75 per cent. and alumina from 14 to 17 per cent. Below are given analyses:

	I ¹	II ¹	III ²
Silica (SiO ₂)	72.28	73.18	72.21
Alumina	14.90	16.13	16.32
Iron oxide	0.50	0.52	.....
Calcium oxide	1.66	0.61	2.02
Magnesium oxide	0.15	0.14	.20
Potassium oxide	6.23	4.41	4.39
Sodium oxide	3.01	2.18	2.86
Fluorine	0.88	0.23*
Phosphoric oxide	0.53	0.45*
Water	0.81	2.01	1.97

*Not determined.

1. J. A. Howe "Handbook to the Collection of Kaolin, China Clay and China Stone in the Museum of Practical Geology," No. 1 represents the best "hard purple" grade and No. II the poorest "buff" grade.

2. Coulter, L. B., Trans. A. C. S., Vol. VIII, page 357.

Coulter found⁷ that when Cornwall stone was substituted for feldspar in glazes, keeping the chemical formulas of the glazes uniform, the Cornwall stone glazes were slightly more fusible than the feldspar glazes. This was probably due to the presence of 2 or 3 per cent. of fluorspar in Cornwall stone, a point apparently overlooked by Coulter. He also found that Cornwall stone substituted pound for pound for feldspar gave a less fusible glaze. Ashley⁸ claims that the following mixture can be substituted for Cornwall stone, 11

⁶Trans. A. C. S., Vol. 15, pp. 101-111.

per cent. kaolin, 22 per cent. quartz and 67 per cent. potash feldspar.

Over 75,000 tons of Cornwall stone are quarried in England each year, 35,000 of which are exported. It is brought to this country as ballast, but even with such cheap ocean freight rates it costs more here than feldspar.

Pegmatites, coarse granites composed of mixtures of feldspar, quartz and a little mica, are mined in Europe for use in place of feldspar. This material corresponds in composition to the No. 2 feldspar sold in this country.

WHITE MICA

The use of muscovite, white mica, in place of feldspar, has been tried by Stull in an experimental way.⁹ He found that when finely ground this material acts similarly to feldspar, but that it is more refractory. Owing to the sheetlike form in which mica occurs, it is very difficult to grind fine. For this reason, the white mica occurring with feldspar is generally broken off and discarded before the feldspar is sent to the mill.

TALC

Talc can be used in small amounts as a substitute for feldspar. The following conclusions of Parmelee and Baldwin¹⁰ are especially worthy of note in this connection:

"It has a decided influence towards promoting the translucency of the ware even when introduced in small quantities. The light transmitted through such translucent ware is of a whiter quality.

"The color of the ware is made whiter by the addition of the talc, and becomes of a grayish tone in some mixtures.

"Talc promotes vitrification in the body. This vitrification proceeds slowly and apparently without the sudden fusion peculiar to lime.

"Progressive additions of talc to a body, up to certain limits, increases the toughness as measured by abrasion loss. This increase is noticeable with all the feldspar contents examined. This is quite in accord with the statement by Richard (Proceedings of Congress of Applied Chemistry, 1909. Abstracts Eng. Cer. Society, Vol. VIII, page 13) that 'the usual lime earthenware is comparatively easily breakable. The introduction of magnesia as well as lime into the clay body gives more resistive power toward knocks or pressure.'"

SUMMARY

1. As the results of the mode of its geological occurrence and the methods employed in its winning and preparation, commercial feldspar is liable to be variable in composition.

2. The best way to test new feldspar is to incorporate it into trial mixes of the product to be made. Chemical analyses are not satisfactory.

3. The most satisfactory method of reducing the effects of this variation in pottery bodies is to systematically blend feldspar shipments in use.

4. Of the several minerals proposed as substitutes for feldspar, Cornwall stone is the most satisfactory. Its effects in pottery bodies are somewhat different from those of feldspar.



"Nervous prostration comes from letting the work chase you; when you chase the work you eat, sleep and laugh; and the man who can do these things is immune from everything."

⁹Trans. A. C. S., Vol. VIII, page 356 and 365.

¹⁰Trans. A. C. S., Vol. XII, page 438.

¹¹Trans. A. C. S., Vol. IV, p. 255.

¹²Parmelee, C. W., and Baldwin, G. H., Trans. A. C. S., Vol. 15, p. 543.

Improved Pottery Designs in Great Britain

The subject of pottery design is receiving much attention in Great Britain at present. It is possible that this movement has been influenced by a pamphlet recently issued by the United States Bureau of Education [see COMMERCE REPORTS for Sept. 15, 1919] urging the importance of adequate training in industrial art and asserting that America must turn from its quantity methods and put the country's commerce on a quality basis. Reports from German pottery centers are to the effect that German potteries also are going in for high quality of design and technique as opposed to the cheap wares that formed the bulk of their pre-war manufactures.

The art section of the Ceramic Society is forwarding this movement, having opened an exhibition of modern paintings by leading artists at Stoke on December 8. This was followed the second week in January by the society's second annual exhibition of modern pottery, for which all British manufacturers were invited to submit wares. The jury is to be headed by Mr. R. Anning Bell, professor of design at the Royal College of Art. The object is to inculcate the idea of sound design not merely in high-class decorative wares but even in the cheapest and simplest domestic uses. Later an exhibition of German and Austrian pottery will be held.

Stocks of raw material are reported to be very low in the pottery district. This applies not only to china clay from Cornwall but also to ball clay from Dorset and Devonshire. Lack of transportation is given as the cause of the shortage. As much as 60s. (\$14.60 at normal exchange) per ton has been paid for freight from Fowey to Runcorn, and since that time 52s. 6d. (\$12.78) has been refused. These rates compare with the pre-war rate of 7s. 6d. (\$1.83) and 17s. 6d. (\$4.26) as late as last July.

Imports of foreign pottery are increasing at a rapid rate. According to the latest statistics, imports for August were 3,077 hundredweight, valued at £8,406 (\$40,908 at normal exchange); September, 4,056 hundred weight, valued at £19,388 (\$94,352); October, 6,330 hundredweight, valued at £26,881 (\$130,816); and November, 8,683 hundredweight, valued at £32,624 (\$158,765). The demand is so great and the shortage of home wares so acute that the demand for goods has not yet been satisfied.—*Commerce Reports*.



Pittsfield General Electric Plant Expands

The General Electric Co., Schenectady, N. Y., is planning for the erection of a new brick and steel addition to its plant at Pittsfield, Mass., to be equipped for the manufacture of electrical porcelain specialties. The structure is estimated to cost about \$200,000. C. C. Chesney is manager of the Pittsfield works.



New Plant to Make Porcelain Insulators

Following the acquisition of the Locke Insulator Co., Victor, N. Y., by Symington, Hoffman & Co., of Baltimore, Md., plans are being projected for the establishment of a large local plant for the manufacture of porcelain insulators. A site aggregating about 15 acres of land has been purchased for the proposed plant, with water frontage, and the new works are estimated to cost close to \$1,000,000, including machinery installation. The plans call for the construction of a total of 24 kilns for initial operation, and with other works departments will furnish employment for more than 500 operatives. Only high grade specialties will be manufactured, covering for the most part insulators for high-tension electric service. It is planned to inaugurate

construction at an early date and have the plant ready for service during 1920. It has not been made known if the Victor works will be removed to the Baltimore district, or continue operations as at present.

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Electrical Porcelain Plants Very Active

The past fortnight has shown particular activity among the electrical porcelain plants at Trenton, N. J., and responding to the call for these specialties numerous plans are under way for increased capacity at different plants. The Trenton Porcelain Co. is having plans drawn for the erection of a new one and two-story plant to be located in the vicinity of New Brunswick. The extension to the plant of the Star Porcelain Co., referred to in a recent issue of *Brick and Clay Record*, will be located on Muirhead Avenue, adjoining the present works, and is estimated to cost about \$6,000. The Union Electrical Porcelain Co., Hamilton Avenue and Clark Street, has plans under way for the early rebuilding of its plant, destroyed by fire on January 21, with loss estimated at close to \$100,000, including equipment. The damage is of serious extent; this company is operated by the Duncan Mackenzie's Sons Co., with machine works in this immediate vicinity.

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A Digest of Interesting Opinions

A digest of the opinions of the representatives of the Thomas Maddock's Sons Co., Trenton, N. J., in different parts of the country indicates that business in the building trades, and incidentally in the sanitary earthenware products line, such as this company manufactures, will be exceptionally good during 1920. From the Middle Atlantic States, the report sets forth that this year should prove the banner year of a period of years to come; from the Middle Western States, it is stated that this undoubtedly will be the largest year that the building industry has ever known, and that the next five years will be record breakers; from the South, a similar comment is noted, holding that 1920 in this section will be the best year ever known; from the Southwestern States it is reported that the outlook is exceptionally favorable, extensive building is anticipated and high market prices;



The Business Man's "National"

The following is a recent letter sent out by the U. S. Chamber of Commerce:

"Would it not be a desirable and effective consummation if all the business men in America got together as a unit on the fundamental problems affecting business?"

"The time for such a consummation is now and the opportunity is here in Chamber of Commerce of the United States, which represents American Business nationally and is so recognized.

"The American Federation of Labor has its home in Washington. Agriculture has bought ground for its home and is now raising money for its 'Temple of Agriculture.' The United States Chamber, representing Business, has purchased the old home of Daniel Webster across Lafayette Square facing the White House, where it will erect a monumental structure to be the national home of American industry and commerce.

"The task of the National Chamber is to present to Congress, the President and the Public, the business sentiment of the whole country on the vital business questions of the hour. The Chamber is the only medium thru which Business can express itself clearly on national questions.

"The more representative its membership the more influ-

from the Western and Northwestern States, it is set forth that this territory is boiling over with prosperity, a large building boom is predicted in the spring.

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Hope for Pottery Industry at Riverside

It is rumored that a small pottery factory may be established in Riverside, Cal., in the new building now being erected by the Glenwood Hotel Co. directly opposite the Inn. Karl Martin, superintendent of the Alberhill Coal & Clay Co.'s plant at Alberhill, was a recent visitor at Riverside and was offered the quarters necessary for the beginning of such an industry. Silica and feldspar, both of which are needed in the burning of clay for high class chinaware and pottery, are found in large quantities at Nuevo, near Riverside. There is also a movement on foot among those interested in the development of Riverside, to create an individual architectural atmosphere for the town—and on account of the necessity for cool buildings, it is thought that clay building materials, such as hollow tile, brick and adobe are the most practical and desirable.

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Stockholders of the Onondaga Pottery Co., Syracuse, N. Y., at their annual meeting, elected these directors: A. W. Hudson, E. L. Torbert, W. L. Huber, C. M. Crous, Charles B. Everson, George H. Bond, M. Crouse Klock, Mrs. James Pass and B. E. Salisbury. The directors chose these officers: president, B. E. Salisbury; vice-president and treasurer, E. L. Torbert; secretary, M. Crouse Klock; assistant secretary, R. A. Bryant; assistant treasurer, Willard M. White.

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The New Jersey Porcelain Co., Trenton, N. J., has been incorporated with a capital of \$125,000, to operate a porcelain works in this district. The company is headed by Stephen Wenczel. Edwin E. Marshall, 306 Commonwealth Building, is registered agent.

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The Eagle Porcelain Co., New York, has filed notice of organization to operate in New Jersey. Alfred Helmrich, 431 Broad Street, Newark, N. J., is registered agent.

ential will it be in obtaining from Congress a proper sense of the important governmental matters that should receive prompt attention.

We would be pleased to have you enrolled. The Chamber of Commerce of the United States can be of service to you; you can be of even greater service to it."

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Coal Shortage Hits French Potters

United States Trade Commissioner Wood recently returned from France, and says among other things, that the pottery industry was not damaged by the war, but that the coal shortage has kept down the output.

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Howard Elliott, President of Northern Pacific Railroad, stated at St. Paul recently that \$3,000,000,000 must be spent by U. S. railroads "within the next few years," to provide first-class passenger and freight facilities.

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It has been announced from Winnipeg that the housing commission operating under city's housing plan will make a loan of 85 per cent. of net cost of home. A first mortgage will be taken on property for 20 years, repayable at rate of \$7.13 a month for each \$1,000 borrowed.

The SUPERINTENDENT

Helpful Hints for Practical Men
Whose Problem is Maximum
Production With Minimum Cost

Grinding Data on a Hard Shale

In the eastern section of the United States there is a deposit of extremely hard shale which lies in a very favorable location so far as market and fuel is concerned. We are told that a company was formed to exploit this deposit and construct a clay plant but the problem of grinding the shale was given a great deal of study and concern. It was feared that the material was too hard for a dry pan to handle without excessive repair costs so consideration was given to other grinding apparatus. Hence, a quantity of the raw shale was sent to the American Pulverizer Co. for a test on their ring type of pulverizer.

It is unfortunate that we do not have the data of the grinding results of other types of crushers on this particular shale to make comparison with, but the report of the engineer for the above concern to the clay products company was as follows:

"We tested your shale today and received the following results—everything passing a 10 mesh screen you will have the following proportion of material:

- 21 per cent. retained by 12 mesh
- 10 per cent. passing 12 mesh retained by 14 mesh
- 18 per cent. passing 14 mesh retained by 20 mesh
- 9 per cent. passing 20 mesh retained by 40 mesh
- 42 per cent. passing 40 mesh

"In this operation you will find that about 28 per cent. are rejections so that an elevator of 20 tons capacity, that would be 14 inch buckets as proposed by you, will be sufficient.

"We also made this test over a 6 mesh screen and received a material as sent in a special tube. The 6 mesh screen was placed on an angle corresponding to 36 inches horizontal and 45 inches perpendicular. We believe that in using a $\frac{1}{4}$ inch screen under the same angle you will have a satisfactory product from your material, etc."

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To Bring Ends of Broken Belt Together

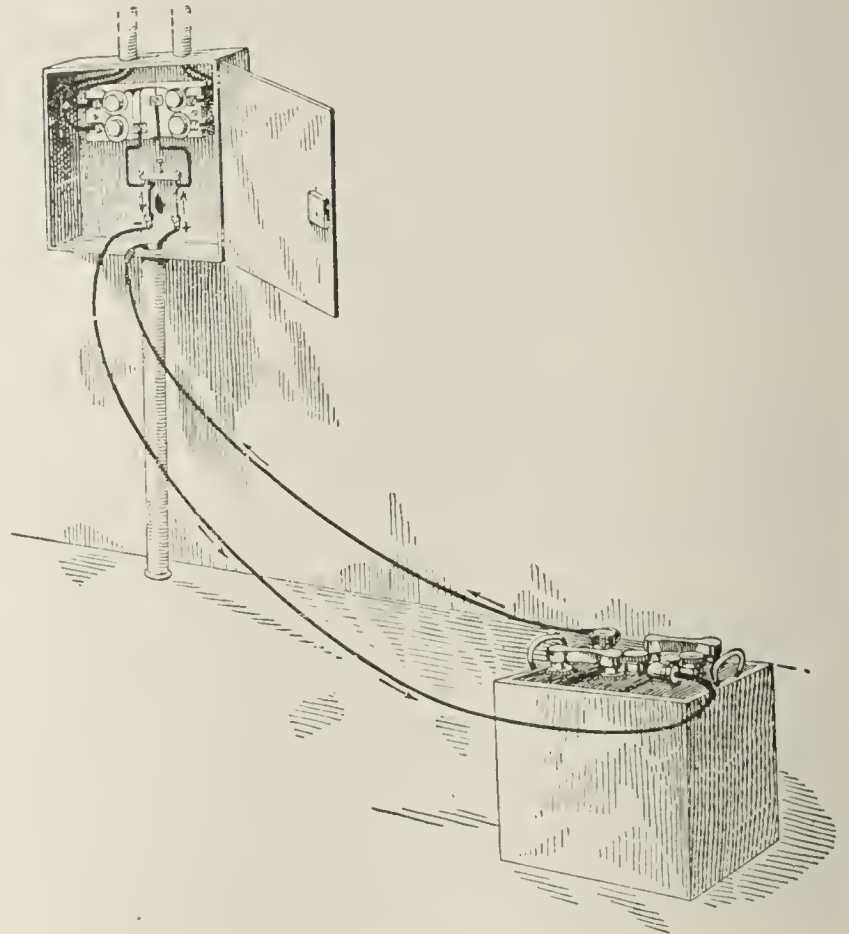
Once in a while the belt of a belt conveyor will break and the ends fly fifty feet apart. A small belt in such cases can be brought back by hand, but for an 18 or 24 inch belt a one inch rope must be used. This may be made fast to the belt with four to six timber hitches on each side, and with a rope block, the ends should be brought back as close together as possible so that they may be handled with the belt clamp.

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Charging Batteries from Lighting Load

The problem of recharging an automobile starting and lighting battery was put up to me recently, with the request to do it without any unnecessary expense. In our machine shop we have twenty 16-cp. incandescent lamps operating on 110-volt direct current. This load is equal to about 10 amperes and seemed to be the most convenient resistance to connect in series with the battery to limit the charging current.

I determined the positive and negative terminals of the lighting switch and disconnected the negative wire, connecting this to the negative terminal of the battery and the positive of the battery to the switch, as indicated in the illustration.



Illustrating How an Automobile Starting and Lighting Battery Was Charged at Low Cost.

tion. This allowed me to charge the battery and still have enough light in the shop without making up a charging rheostat.—*Alfred Meslar, in "Power."*

✱ ✱ ✱

Encourage Suggestions From Employees

Thru having had to repair a machine or other equipment very frequently or for many years, a worker becomes very familiar with the operation of the equipment and knows its strong and weak points. Too frequently, he is simply told by the "boss" when the apparatus is out of order, to do a certain thing to the machine, which he does, and the equipment is again ready to operate. The repair man often becomes more familiar with the different parts and performances of a machine than any other man on the plant and in many cases could give valuable suggestions on employing some special metal or rearranging parts in another manner that would greatly reduce the need for repairs. However, he hesitates to say anything unless encouraged to do so. Every firm should encourage suggestions from its men and should do everything to stimulate interest on the part of the employees to find a better way of repairing parts that require frequent fixing.

IN *the* WAKE *of the* NEWS

Being a Brief Mention of a Host of Interesting Happenings in the Varied Fields of the Clayworking Industry

Former Active Terra Cotta Man Dead

It is with great sorrow that *Brick and Clay Record* conveys to its readers the news of the death of Fritz Wagner, a prominent Chicago architect who was well known in the clay industry. Mr. Wagner was very active at one time in the affairs of the Northwestern Terra Cotta Co., of Chicago, Ill., and was the first president of the National Terra Cotta Society. He was also a life member of the Chicago Press Club, a member of the National Union, the Chicago Architectural Club, Palette and Chisel and other clubs. He was sixty-three years of age at the time of his death and was buried at the Rose Hill Cemetery, Chicago, on February 5.

R. L. Duncan Succeeds W. L. Cremers

W. L. Cremers, of the R. B. Tyler Co., Louisville, Ky., who has been handling the brick and building supply departments of that company, along with representing the Philip Carey Co., whose lines are handled in Kentucky by the R. B. Tyler Co., has left Louisville to go with the American Insulation Co., office at Philadelphia, Pa., as a Carey company representative. Mr. Cremers was in Louisville for about two years, and made many friends in the brick and general building trade. R. L. Duncan has taken charge of the building supply department.

Saves Company's Payroll

George Newsome, paymaster for the Grueby Faience & Tile Co., at the plant at South Boston, Mass., put up a plucky fight when attacked by highwaymen in broad daylight on January 24 and saved the company's payroll amounting to \$1,500. Altho knocked down and threatened with a revolver by the two men who attacked him, Newsome refused to give up the bag containing the money and shouted loudly for help. His calls were answered and the thugs made their escape in a waiting automobile, without getting the money.

Charles Frank Leaves Nelsonville Concern

Charles H. Frank, who had been sales manager of the Nelsonville (Ohio) Brick Co. for the past fourteen years, has resigned to accept a position with the J. Rapp Co., which is controlled by his father, Charles H. Frank, Sr., and his brother, W. B. O. Frank. He will take the place of his father, who is 87 years of age.

Celite Products Associate Passes On

Celite Products Co., New York, announce with profound regret the death of their associate, Mr. David S. Collins, which occurred on January 15.

Straightens Up Disputed Points

J. R. Marker, commissioner of the Ohio Paving Brick Manufacturers' Association, has returned from Washington,

D. C., where he met with the advisory committee of the National Paving Brick Manufacturers' Association on the question of specifications. The meeting was called to straighten up some disputed points.

Reports Prospects Very Bright

M. M. Morrow, sales manager of the Hocking Valley Brick Co., of Columbus, Ohio, has returned from an extended business trip thru Michigan, where he looked over the paving brick situation. The company manufactures pavers and building tile almost exclusively. According to Mr. Morrow, prospects for both lines are very bright.

Appoint New Sales Manager

Savage Mountain Fire Brick Co., Frostburg, Md., announce that Clarence Overend has been appointed sales manager and is located at Room 704, Second National Bank Building, Pittsburgh, Pa., where he will be glad to be of service to the industry.

Billings Pioneer Brick Man Dies

C. P. Slater, one of the pioneer residents of Billings, Mont., died at his home in that city January 20. Mr. Slater started the first brick yard in Billings and from plants controlled by him came the brick for many of the buildings there. At one time his plant produced 6,000,000 brick a year.

Business Brisk in Birmingham, Ala.

The entire output of practically every manufacturer of hollow building tile in the Birmingham district has been sold out for a period of from two to three months in advance, according to the statement of manufacturers. The sale of brick has also been heavy and some classes of brick are in even greater demand. The sale of vitrified sewer pipe has been slightly lighter than the tile sales but a heavy business is expected in the spring when the road work in surrounding territory begins to open up.


Hollow tile is being used to a greater extent than ever before in the construction of a number of varieties of business buildings in Alabama. Several garage and other similar buildings are being erected in and about Birmingham, either with hollow tile or a combination of hollow tile and brick. Hollow tile is being used for the construction of several residences.

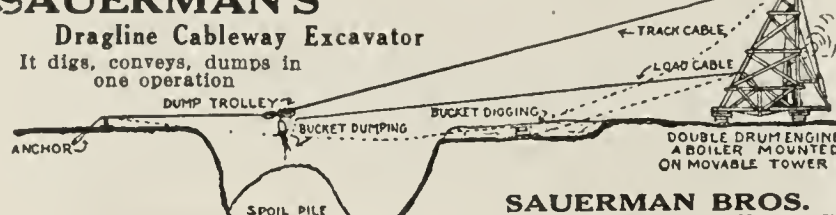
One or two plants in the Birmingham district, where there is competition for labor with the steel industry, are suffering some labor trouble. At one plant it was stated that the car situation and labor situation was causing a slight slump in production but that all the output was sold for about two months in advance.

Other plants stated that there was no labor trouble in their territory and that the production was normal. All of the plants have practically recovered from the shut-down due to the recent coal strike.

The fire brick business in the Birmingham district is said to be unusually brisk.

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DOVER FIRE BRICK CO.
Incorporated 1870
 Manufacturers of North Bend, Dover and Buckeye Brands.
GROUND FIRE CLAY
 Unexcelled for Kiln Purposes
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 "I received your Red color and have made about 100,000 fine red brick, and am putting up my first building. Everyone pronounces it the best looking wall in town."
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For Economical Haulage

 Manufactured by
BRODERICK & BASCOM ROPE CO.
 SAINT LOUIS, Mo.

Incorporates With Capital of \$10,000

At Bucks Crossing, Ala., the Kirk Brick Co. has been incorporated by C. M. Kirk, with a capital of \$10,000.

Increase of \$10,000 in Capital

Southern Tile Co., Mobile, Ala., has increased its capital from \$5,000 to \$15,000.

Capitalized at \$100,000 at Jonesboro

A new brick plant organization is being launched at Jonesboro, Ark., to be known as the Arkansas Brick & Lumber Co. and to be capitalized at \$100,000. The officers are: president, G. W. Culberhouse; vice-president, W. C. Haynes; secretary and treasurer, Zeb Ballew. A ten acre site east of the city will be utilized.

Southern Pacific Plant Expanding

Among the brick plants of California which are undergoing alterations at the present time, in preparation for the 1920 season, is that of the Southern Pacific Brick Co., near Exeter, on the Porterville branch of the Southern Pacific Railroad. Part of the equipment of the brick plant of the Prescott Lumber & Brick Co., of Fresno, Cal., is being moved to the Southern Pacific plant and new machinery is being installed. The general improvements of the factory will cost in the neighborhood of \$100,000. The Prescott Lumber & Brick Co. has already contracted for part of the Exeter output for the next two years. The capacity of the enlarged plant will be about 75,000 brick per day.

May Erect Factory at Ione

The directors of the California Clay Corporation at Ione, Cal., held a meeting of stockholders on January 11, which may lead to the erection of a factory at Ione for the manufacture of clay products. The proposed site for the plant is on the grant just west of the town limits where the supply of sand and clay is unlimited and said to be of the best to be found anywhere. About seven years ago the California corporation sold shares of its stock to residents of Ione with the intention of building a pottery, glass works and crockery ware factory. For some reason, however, the plans did not materialize, but it is thought that under the new directorship the business will be revived successfully.

Show Big Increase in Use of Commons

Records of the Los Angeles Brick Manufacturers' Association show the use of common brick is increasing rapidly. In December, 1919, 8,500,000 brick were sold in comparison with the figures of 1,719,000 of December, 1918. For the first six months of 1919 the sales were 16,000,000, while for the last six months they totaled 37,000,000 brick. About 75 per cent. was used for business structures and 25 per cent. for residences, flats and apartments. The association is looking toward 1920 business with a great deal of assurance that the total will pass the 1919 record. It is claimed that prices are lower in Los Angeles than in other large cities of the country, with the exception of Chicago.

San Francisco Prices Remain Firm

In spite of the advancing costs of building materials of all kinds, prices on brick, hollow tile, architectural terra cotta and various other clay products have remained fairly stationary for the last sixty days in San Francisco, Cal. Manu-

facturers report difficulty in filling present orders, however, and are anxiously awaiting the end of the season and looking forward to opening of their plants this spring with larger capacity and working forces.

To Turn Out 5,000 Chrome Brick Daily

The brick plant of the United States Refractories Co. at San Luis Obispo, Cal., is expected to commence operations the early part of February, according to statements given out by the promoters of the organization. When in full operation, it is said that the plant will use about 25 tons of chrome and manufacture 5,000 brick daily.

San Francisco Firms Get Honolulu Contract

Gladding, McBean & Co., San Francisco, Cal., has received the contract to supply the tile roofing and architectural terra cotta which is to be used for construction work on the Post Office Building for Honolulu. The United Materials Co. is also connected with this contract. This concern will furnish nearly 200,000 pieces of hollow tile for the structure.

To Purchase Sunnyside Plant

The Terra Cotta Tile & Brick Corporation was recently organized at San Diego, Cal. It is understood that the new company is to purchase the property and plant of the Sunnyside Brick & Tile Co., of that city.

New Brick Firm Locates at Colton

A new firm known as the Southern California Brick Co. has settled at Colton, Cal. A factory site has been purchased by a syndicate of San Bernardino capitalists.

Two Plants Install New Equipment

Brower & Best, brick manufacturers of Thompsonville, Conn., who operate the only all the year round plant in that immediate vicinity, are planning improvements and enlargements which will increase the capacity of the plant at least 10,000,000 brick a year. The Curtis yard at Chicopee, Mass., a few miles from Thompsonville, also is being improved and will start work at full speed just as soon as weather conditions permit. Both plants are installing electric shovels to reduce labor costs, and other labor saving equipment. These improvements and similar steps planned by other manufacturers in western Massachusetts and Connecticut are expected to be material factors in overcoming the shortage in brick which has been threatened in that section.

Extensive Port Improvements Head List

There is an encouraging aspect to the building situation at Wilmington, Del., and the city seems destined to hit a real stride in construction activities before many weeks have passed. Numerous projects are on the way, this is a certainty, for the architects and engineers are very busy, and the work projected involves considerable sums. Heading the list is extensive port improvements and the erection of a number of brick warehouses for increased harbor facilities; this work will be carried out by the municipality, and tentative plans are now being prepared. A new masonic home is planned by the Ancient and Accepted Order of Scottish Rite of Free Masons, and for this purpose, the Delaware Scottish Rites Building Corporation has been formed to raise a fund of \$350,000 for the building, to be located at Delaware Avenue and Van Buren Street. A new brick office building to cost about \$200,000 will be erected by the



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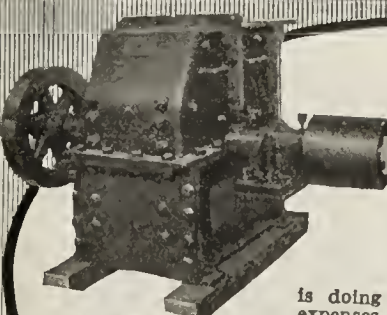


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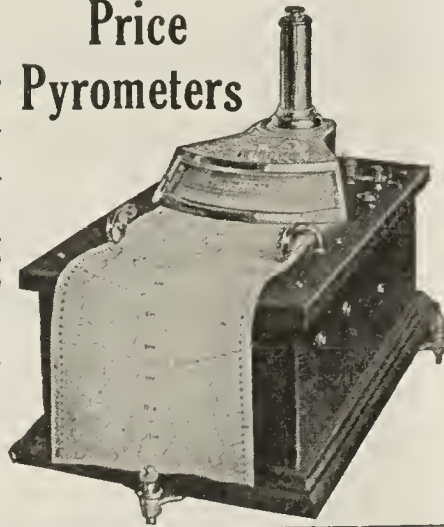
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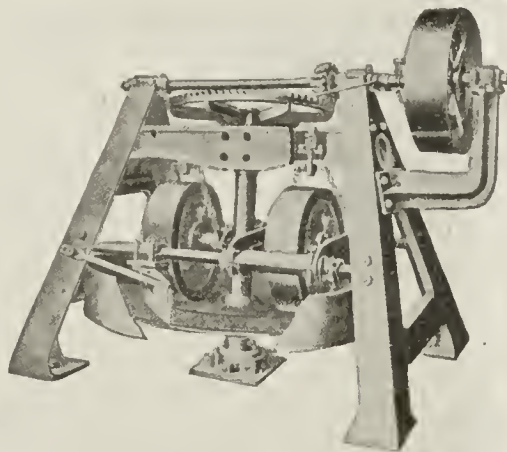


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Zanesville, Ohio

THE EAGLE DRY PAN



Write for Prices

EAGLE IRON WORKS DES MOINES
IOWA

Industrial Savings & Loan Association; ground for this structure at West Tenth and Shipley Streets, will be broken about March 1, and a large quantity of burned clay products will be used. January construction work in this section has worked up to a fine showing, the final week bringing out the filing of plans with aggregate cost of about \$100,000 for housing and industrial work.

Delaware Will Expend About \$3,000,000 in Road Works this Spring

The use of burned clay products is coming more and more into prominence in the Wilmington, Del., districts, and this is why the manufacturers and local dealers are busy. The call for common brick is good, with the material selling at around the \$20 mark, with deliveries extra; fire brick is coming along in stronger demand, with a \$70 figure prevailing. Face brick is showing an encouraging attitude with local builders, and altho desirable selections are in the minority, the demand is active. Last, but not least, road work is assuming a marked aspect for "big doings" during the coming spring season, and it is expected that about \$3,000,000 will be expended by the state in this direction. Local dealers, such as the Charles Warner Co., handle an extensive line of materials of this character, including vitrified paving block, conduit, etc., and anticipate that the call will be a feature of the coming season.

Organize With Capital of \$500,000

The Chestnut Ridge Clay Corporation has been organized at Wilmington, Del., with a capital of \$500,000, to manufacture sewer pipe and other burned clay products. Frank Jackson, W. I. N. Lofland and Mark W. Cole, Dover, Del., are the incorporators.

Florida Capitalists Incorporate

At Jacksonville, Fla., the Columbus Brick & Tile Co. has been incorporated with a capital of \$500,000, by Telfair Stockton, as president; Robert Gamble, vice-president, and C. W. Dixon, secretary.

Large Improvements Under Way

George O. Berry, of Columbus, Ga., contemplates the erection of new kilns and boiler house, and will install from \$15,000 to \$20,000 worth of new machinery. The daily capacity of the plant will be 60,000 common brick, and he will also manufacture hollow tile in the future.

Changes in Staff at Acme Plant

Three officers of the Acme Brick Co., Danville, Ill., have been recently promoted to new positions; Mr. Stevens has been made general manager, Mr. Galbreath, traffic manager and Mr. Johnson, superintendent. The officers of the company are: Charles N. Stevens, president; Victor C. Carlson, vice-president; Ezra S. Smith, treasurer; Douglas F. Stevens, secretary and general manager; Thomas M. Galbreath, traffic manager, and George R. Johnson, superintendent.

Because of the large increase in business, the capacity of the plant is to be increased materially. The Acme company has already purchased and is now installing an additional unit for making floor tile, consisting of an auger machine and a cutter. They are also building three more tunnels to their steam dryer and are planning to build several new kilns in the near future.

Brazil Factory Burns With Loss of \$30,000

On January 15, at 3:40 P. M., the plant of the Brazil (Ind.) Clay Co. caught fire and the manufacturing room was destroyed, entailing a loss of about \$30,000. Officials of the company have not been able to ascertain the cause of the fire, as the plant had just been closed down for the day. The pug mill, clay feeder, brick machine, cutter, three represses and all the conveyors were totally destroyed. The plant is now being rebuilt, however, and all new machinery ordered. The new building will be entirely of steel and brick construction. Operations will be resumed by March 15, it is expected.

Sewer Pipe Displayed in Cannelton Booth

The Cannelton (Ind.) Sewer Pipe Co. had an interesting display of sewer pipe of various sizes at the annual meeting of the Kentucky Retail Hardware Dealers' Association in Louisville, on January 27 to 30, having a large booth on the west side of the Jefferson County Armory, where there was a total of seventy-three exhibits of hardware, building hardware, farm machinery, etc., while there were six hundred people registered. More than half a million dollars of business was handled by the exhibitors.

Purchases Shale Land, To Erect Plant

A report from Bloomington, Ind., on January 30, was to the effect that C. H. Sherrill, Chicago, and F. E. Shinn, Logansport, Ind., had purchased 247 acres of shale land for \$50,000, and a twelve acre factory site for \$15,000, and that a plant would be erected at once to make brick and tile, it being planned to put up a \$200,000 plant. Work is to start at once.

Indiana Paving Brick Plant Is Sold

Indiana Paving Brick & Block Co.'s plant, Brazil, Ind., was sold by Walker W. Winslow, of Indianapolis, to a Chicago company, who will make a few improvements in view of putting the plant in operation at once, for the manufacture of paving brick. Later on, machinery will be installed to equip the plant to manufacture face brick.

Trys to Secure Funds for Sewerage System

A report from Seymour, Ind., is to the effect that the Chamber of Commerce and City Council have named a joint committee to appear before the Indiana Tax Board to secure information as to method of procedure to secure funds for a \$250,000 sewerage system to be started in the spring. The survey will cost about \$1,500.

Iowans Listen to Common Brick Plans

Considerable interest was manifested by a group of about twelve Iowa clay products manufacturers in a discussion of the plans being drawn up by the Common Brick Manufacturers' Association of America, for promoting the use of common brick when R. P. Stoddard, secretary of the above association, gave an address before these men in the Rose Room of the Chamberlain Hotel, Des Moines, Ia. The complete program of the service to be extended to prospective builders was told and every man present agreed that this work would meet a long felt need of something of that sort that would aid the ordinary layman in planning his home if he cared to build of brick. The fact that the lumber, stucco and cement associations have been doing this kind of work right along has resulted in the loss of much business that would

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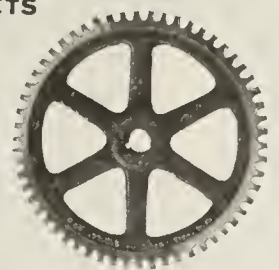
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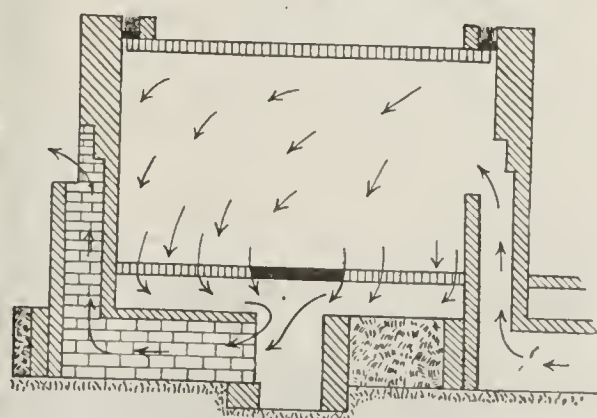
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a Plant to Prosperity*

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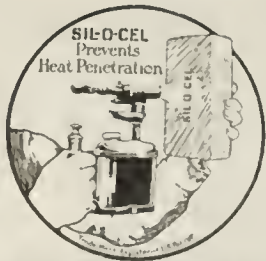
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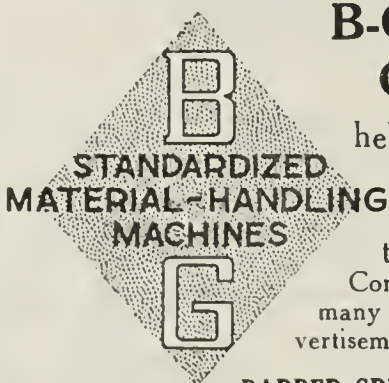
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undoubtedly have gone to the clay industry had clay manufacturers been prepared to give the same kind of service and aid to prospective builders.

Iowa Hollow Tile Men to Hold Full Sway

There is a rumor current among the Iowa clay manufacturers that they are to have a free field in their own state as far as the Illinois manufacturers of hollow tile are concerned. It is understood that the Illinois manufacturers have more business than they can take care of and that they have withdrawn from the Iowa market for the time being at least.

Iowa Manufacturers Discuss Labor Situation

Members of the Permanent Buildings Society held their annual meeting in Des Moines, Iowa, the middle of January. There were about twenty-five Iowa clay manufacturers present and considerable interest was shown. A large part of the day's discussions was given over to the labor situation, which is the biggest problem the Iowa manufacturer is facing at the present time.

Leases Plant to Brothers

George M. Stauffer, owner of the Gladbrook (Iowa) Press Brick & Tile Co. has leased the plant and business to his brothers Neil and Earl Stauffer, who will conduct the business under the same firm name.

Discontinue Brickmaking at Fairfield

Raney Brothers, Fairfield, Iowa, have sold their plant, and brickmaking in Fairfield is to be discontinued. The buildings of the Raney plant have been sold to a washing machine manufacturer and will be used as a foundry.

Louisville Brick Men Report Heavy Orders

Business is humming with the Louisville brick manufacturers, who report heavy orders and fine prospects. The Home Development Co. was incorporated recently to build about 100 residences in Louisville and New Albany, and will install its own planing mill to facilitate the plan of standardized building. A number of concerns which annually erect a number of houses have come out with announcements relative to plans for batches of houses running from twenty-five to one hundred each, mostly residences costing between \$3,000 and \$6,000.

Car Shortage Acute in Louisville

Louisville brick manufacturers report excellent demand for common brick as well as face brick. F. o. b. prices are \$17.50 a hundred on common and \$28.50 for face. Hollow tile is quoted at \$10 a ton, regardless of size. Business is good and the plants have all that they can do. Local deliveries are good, but plants that have to depend on cars to make shipments are having a great amount of difficulty in keeping going except on stock, as car shortage is acute.

Specializes in Sewer Pipe and Hollow Tile

A. P. MacDonald, sales manager for the P. Bannon Pipe Co., Louisville, Ky., reports numerous inquiries, and good demand from the far South, with Kentucky business picking up steadily. Hollow tile and common brick are the lines in big demand, while sewer pipe is strong. The company at present is rather side tracking brick and fire brick business in order to hold kiln room for hollow tile and sewer pipe.

Producing Heavily, No Cars to Ship

James T. Howington, of the Coral Ridge Clay Products Co., Louisville, Ky., in discussing the situation said: "All that we need is cars, and more cars, as we are producing heavily, but not able to ship anything like capacity, due to inability to secure more than a small percentage of our needs. Coal supply is good, and we are having very little trouble on that score.

Propose Two Million Bond Issue for Sewers

Bills are now before the Kentucky Legislature to legalize a proposed \$2,000,000 bond issue in Louisville for sewers. The local committee has been appointed and is getting things in shape to go right ahead with its plans as soon as the General Assembly sanctions the work.

New Shale Brick Incorporation

At Lexington, Ky., the Kentucky Shale Products Co., capital \$300,000, has been incorporated by R. S. Eubank, Hiram Iwens and H. D. Kremer.

Interesting Figures in Baltimore Building

Baltimore, Md., certainly "knows how" when it comes to construction work and of the different important cities of the southern district, this municipality is taking a good lead. The building record was broken in 1919, and unquestionably will be "smashed" again in 1920, if present indications are any sort of a guide. As recently recorded in *Brick and Clay Record*, the total building during the past year was about \$26,000,000, and to show the progress made a comparison with former yearly periods is very interesting. In 1918, the total work aggregated \$6,464,225; in 1917, \$7,559,571; in 1916, \$11,096,998; in 1915, \$12,095,482; and in 1914, \$13,572,283. In other words, 1919 exceeded any of these years by a substantial amount, more than double, excepting 1914, and as the records pile up for 1920, still more interesting totals will come to light. This activity is drawing heavy on local manufacturers and dealers, and burned clay products of all kinds are playing an important part in the construction, for local interests are very favorable to fireproof materials of this character. With housing operations commencing to assume a still more important attitude, the industrial work is of even greater moment, for millions of dollars are involved for projected structures in the Curtis Bay districts. Every week seems to usher in a new plant for this district and the spring season will see things "humming" hereabouts.

Perfecting Plans for Common Brick Plant

Plans are being perfected by E. M. Smith, Havre de Grace, Md., for the establishment of a plant in this section for the manufacture of common brick. It is proposed to have the plant ready for early production.

Boston Brick Quoted at \$27

Deliveries of brick, along with everything else, were seriously hampered in Boston during the month of January by the unusually heavy snow, one storm following in the footsteps of another so rapidly as to make streets almost impassable. Auto trucks proved their value under these severe conditions but even trucks found difficulty in making progress at times. The demand for brick in Boston continues, however, in spite of weather conditions and dealers look

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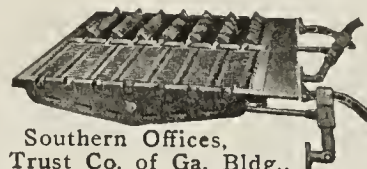
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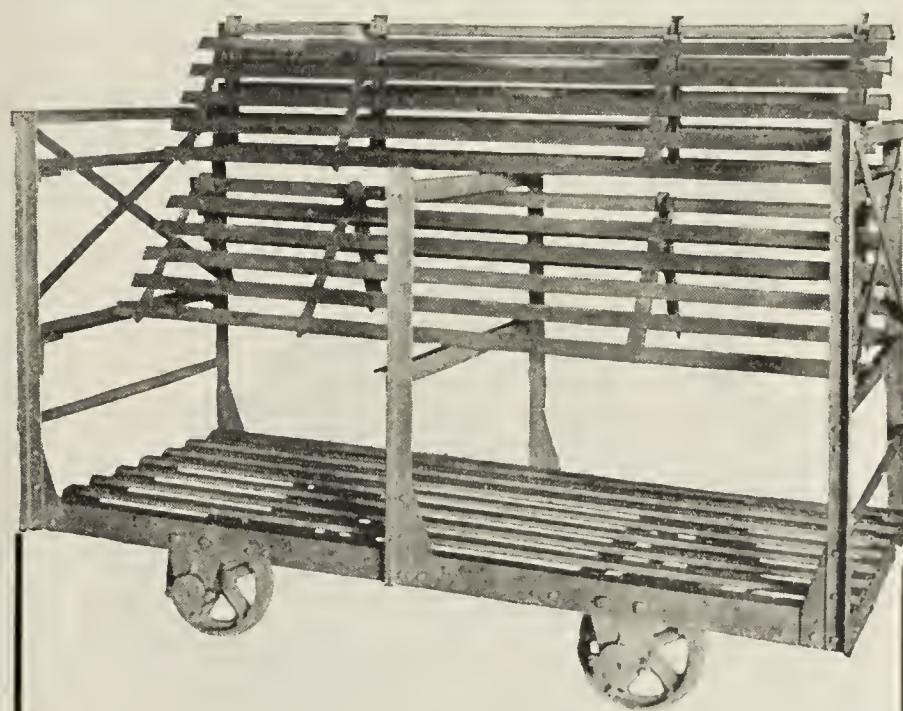
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Complete Drying Equipment
Consulting Dryer
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for the inquiry to increase rather than decrease during the coming weeks until the open season. For up and down brick delivered on the job the quotation is generally \$27 but it is by no means positive that the figure will not be higher ere this item can be put in type.

Stove Lining Works Suffers Fire Loss

The clay storage building at the plant of the Dighton (Mass.) Stove Lining Works, was destroyed by fire on January 22 and several other buildings damaged. The main building at the plant was saved by firemen called from the neighboring city of Taunton to help the local fire department. The fire is thought to have started in the boiler room. The damage was estimated at \$10,000.

Rush Work on New Brick Plant

The annual election of directors and officers of the Better Brick Co., of West Duluth, Minn., was held on January 19, the following being elected: F. W. Jolitz, president; Victor L. Seline, vice-president; H. C. Brown, secretary-treasurer, and Robert Freeman, E. J. Besser, John Berghult and W. Lyons, directors. The company has opened offices at 304 North Central Avenue and it is reported that the plant now under construction at Sixty-fifth Avenue west and Redruth Street will be completed and ready for operation early in the spring. The plant will cost about \$25,000.

St. Louis Housing Program Well Underway

Three hundred brick dwellings of an average cost of \$5,000 will be erected in St. Louis next Spring by the Home and Housing Association, the \$2,000,000 organization formed by the Local Chamber of Commerce and supported by the various industries of the city. More than 500 applications have been received from prospective buyers and it is likely that the number of homes to be built will be increased at least that much. The first of the buildings will be started by March 1 and all will be under way by the first of July, according to Nelson Cunliff, manager of the association. Speaking of the general plan of the association, Mr. Cunliff stated that houses valued at \$10,000,000 can be built with the \$2,000,000 fund by borrowing money from the banks on the mortgages on the houses.

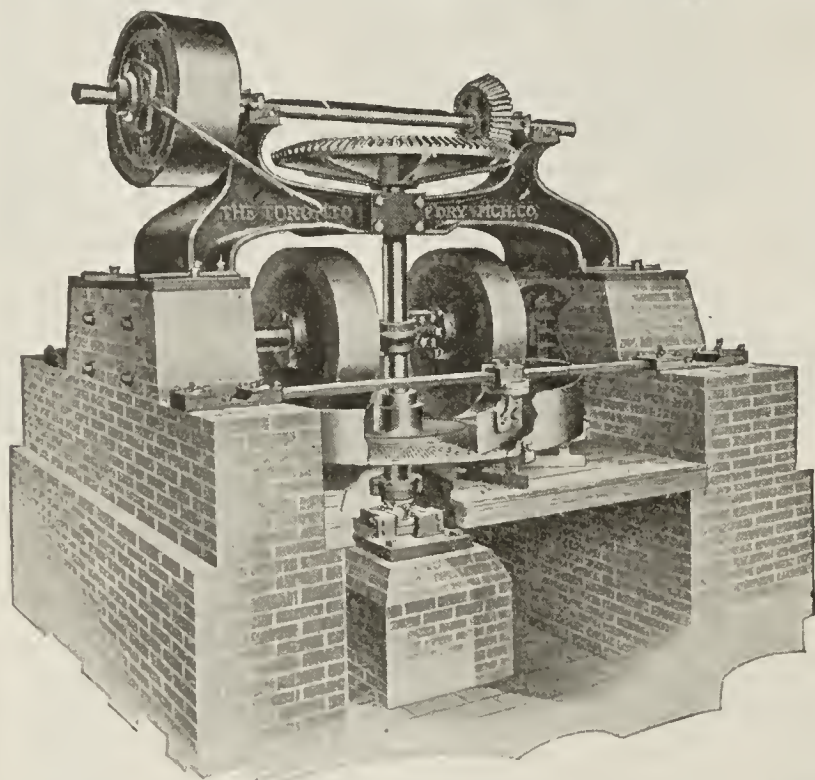
Propose to Widen Olive Street With Brick

A project to widen Olive street at a cost of \$2,000,000 has been approved by the Board of Public Service, of St. Louis, Mo., and is almost certain of realization. Olive street, a thorofare for heavy hauling, is brick in greater part, and the section to be widened will be of brick. For a distance of twenty blocks it is proposed to widen the street from 60 to 100 feet. At a recent public meeting property owners urged that 20 feet be taken from each side to put the project thru.

High Tension Easing Down in N. J.

The past fortnight in New Jersey has developed a slight tendency to "go a little slower" in construction work. This does not mean that there is any noticeable recession in operations, but rather that the high tension evidenced during the past few months is easing down, due for the most part to the uncertainty of the building material and labor situation. Moreover, January is necessarily a month for "taking account of stock" and with rather severe winter weather a certain lack of interest is to be anticipated. With thirty-

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Toronto, Ohio

dollar brick on the job and ten and twelve dollar a day labor, the speculative builder is going ahead with plans for proposed work—but he's stopping there for the present. The important thing is the evident lack of stability to the market; mason material dealers are making prices subject to prevailing figures at time of shipment on large quantity orders, and as this time is dependent upon the manufacturer and his ability to make shipments on anywhere near schedule time, the unknown quantity is not a pleasing nor encouraging one to the man who pays the bills. With this condition, contractors are handicapped in making definite estimates, and so the effect is felt all the way down the line. Industrial work and housing operations, covering smaller projects and deliveries of materials direct from the yards, are going ahead in a substantial way, and there is no thought to diminish activities in this direction. The conditions as cited hold true for the different important centers of the state, including Newark, Paterson, Passaic, Jersey City and Hoboken, Trenton and vicinity, as well as points in South Jersey. The suburban sections, particularly, are showing a keen attitude for an increasing scope of work, and wherever the manufacturer or building material dealer is located makes little difference—he's a busy man, and in the spring, he's going to be still busier; every indication points to it.

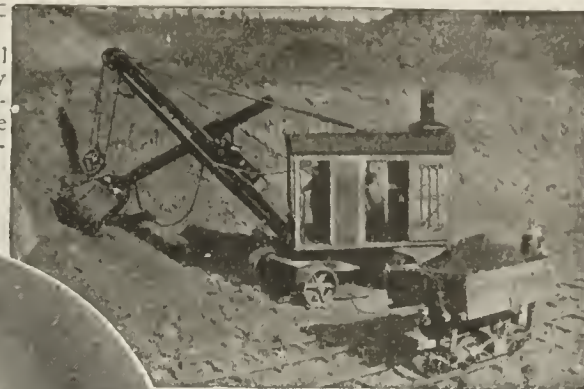
Will Erect Five Large Brick Buildings

Newark, N. J., continues to hold its own in construction work, and regardless of mounting prices of basic materials, new work is making its entry in the field, week after week with sort of defined regularity. With the month of January closed, the building department totals show an estimated valuation of \$1,882,100, as against \$165,613 for the corresponding month of last year. This single month is greater than the combined aggregate for the first three months of 1919, which totaled \$964,405. The outstanding feature of the local operations is brick factories; during January, fourteen permits were issued for industrial buildings, with cost running to about \$750,000, and of these thirteen were brick and one frame. The popularity of brick is also evidenced in the matter of dwellings, and of the aggregate amount of January building, \$1,200,000 was for structures of brick and other fireproof material. With the growing scarcity of good brick in the local market, fear is expressed that activities calling for this material, and no other, will be curtailed before the winter is past. An important local project which has developed during the last fortnight is that of the Industrial Factory Sites Corporation; this company has purchased property on Frelinghuysen Avenue, and will build five large brick industrial buildings, four of four stories, and one of one-story height, 50x130 ft. and 130x175 ft. in average size.

Hanover Plant Working at Maximum Output

The Hanover Brick Co., Morristown, N. J., with plant at Whippany, is working at maximum output. During the period of the coal shortage, the yard was compelled to curtail operations, with a result that it is now far behind in its orders. More than a month to six weeks was lost, and every effort is being made to meet the ever-increasing demands. As C. W. Ennis, head of the company, says, this is next to impossible, for if millions of brick were available at the plant, up to 25, 30 or more, they could be disposed of at short notice. The company manufactures a particularly high grade product which stands out in marked contrast to the ordinary run of common brick, and has a "ring"

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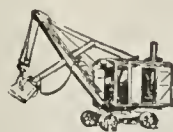


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We find it very economical and inexpensive. We are very much pleased with our investment." N.M.

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Classified Advertisements

(Continued from Page 386)

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BUILDING MATERIAL BROKER in South Carolina wishes to secure representation in South and North Carolina for products of some large and reliable brick and tile manufacturer. Please state capacity, shipping prospects and prices. Box 298, Rock Hill, S. C. 2-1

FOR SALE—Entire soft mud outfit including Hercules, Sr., machine, sander, disintegrator, engine and boiler. 20 m. lath pallets, pulleys, shafting, etc. Address: A. Barr, Urbana, Ill. 2-2

WANTED—Sewer pipe press, 42x48 or larger, 20-inch clay cylinder. Box 767, Fort Dodge, Iowa. 2-2

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Just add it to your clay at the pug mill or dry pan and it will make the scum-producing salts insoluble and harmless to your ware.

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that makes you know it is good. Clay is secured from properties owned near the plant, a steam shovel being used at this end of production; an industrial railway line for the clay dump cars extends from the clay banks to the plant. The company sells to dealers only, having adopted such a policy long ago, and maintaining it in its full meaning. The prevailing price is now around \$20 a thousand at the yard, and large shipments are going forward to all parts of the state, particularly in the northern districts.

New Jersey Prices Hold Firm

Prices hold firm and the market is "keen" for building materials of all kinds in New Jersey. Common brick is taking the lead in rapid advances and is reaching figures never thought of in time gone by. At Newark, the price is now \$31 a thousand, delivered on the job—and it is so uncertain in tone that it is liable to advance tomorrow; no one knows, and even the dealers "are at sea." Paterson and Passaic are selling at a price of around \$25, to which must be added extra delivery charges beyond a certain distance. At Trenton and vicinity, the same figure obtains for delivery on the job, and the yards with material to sell are asking \$21 and \$22 for so-called good hard common. In the southern part of the state the price is on the increase, with quotations varying from \$23 to \$25 and to \$30 in the different sections. At Jersey City and Hoboken, the price on the job is now over \$25 with \$30 delivery in sight. Face brick is holding its own and desirable selections are becoming more and more difficult to obtain; figures in carload lots for Kittanning varieties range around the \$50 mark, while regular red face brick, rough textured and smooth, is about \$45 a thousand.

Other burned clay products of all kinds are in active demand in New Jersey. Clay tile partition has seen an advance at Newark and vicinity during the past few weeks of about \$40 a thousand, delivered on the job. The 3x12x12 in. size is selling at \$181 and the 4x12x12 in., around \$200. Fire brick is in fair call, with price level from \$65 to \$70 in different parts of the state. Other commodities with popular market tendencies are hollow building tile, drain tile and pipe.

Canada Logical Source of Supply?

With Northern New Jersey an active purchaser of Hudson River brick, and the peak prices now obtaining on this material, interest is expressed in the movement of manufacturers at distant points to supply the demand and ship material to this section for re-sale. Brick producers in Canada, Ohio and other points, including Maryland, are looking at the price of \$25 a thousand, wholesale, alongside dock, which now holds strong in the metropolitan district, with expectancy that they can ship, defray freight and sell at a lower figure, and still make money. Canada, particularly, is being looked upon as a logical source of supply, and it is currently stated that it is only a question of time when distant interests will enter the local market thruout the New Jersey sections. Builders and contractors await such activity with desire to endorse the action, for anything that will lower the price of this important material is going to help the industry.

Senate Bill No. 17 Introduced

The movement for a new ceramic school and research building at Rutgers College, New Brunswick, N. J., reference to which has been made in recent issues of *Brick and*

Clay Record, has taken definite shape in the introduction of a bill in the Legislature by Senator Thomas Brown of Perth Amboy (Senate Bill No. 17), covering an appropriation of \$100,000 for a building, and \$12,000 additional for operating expenses. An extensive research station is proposed for the assistance of manufacturers thruout the state, and it is estimated that this department will be practically self-supporting in a short time. A hearing on the bill will be held before the Appropriation Committee at Trenton at an early date and a large and representative delegation of men in the clay-working industries of the state is expected to be present. With the approval of this committee, it is expected that the bill will be passed by the Legislature, signed by the Governor and give the state the kind and character of structure it needs so badly. Professor George H. Brown, director of the Department of Ceramics of the school is giving undivided attention to the project.

To Concentrate Operations at Perth Amboy

Construction work has been inaugurated on an addition to the floor and wall tile plant at the C. Pardee Works, Perth Amboy, N. J. The structure will be about 110x200 ft., and will be equipped for manufacture. It is proposed to remove the branch plant of the company, now located at Boston, to Perth Amboy, concentrating operations at this point. It has been found rather impractical to run these two factories at such distance apart. On completion of the new extension, it is said that the company will give employment to about 100 additional men. Orders have piled up for material and continuous production is assured for some time to come.

Wetherill Concern Changes Name

The Thomas Wetherill Tile & Brick Co., operating a plant in the vicinity of Rosenhayn, N. J., has arranged for a change in name to the Standard Brick Co., with intention of concentrating operations to brick manufacture.

High Prices Not Retarding Operations

High prices for common brick and other building materials are seemingly having no effect on building operations at New York, and construction work is moving onwards under a wave of prosperity and optimism. It is not so much the actual breaking of ground for new structures, as it is the plans for forthcoming spring buildings, which will reach to millions and millions of dollars. January, in itself is rather a slow month in real action, but a good time to decide upon operations for the future, and this is just what is happening. The rather severe winter weather has gone to retard work now in progress and the strike of the brick layers is another distressing factor. The situation in this latter connection, however, seems now about to clear, and altho a few weeks may elapse before a final settlement, the end is apparently in sight; the men are asking \$12 for an eight-hour day. Another trouble now looming up in the same line covers the anticipated action of laborers in asking for \$7 a day; with the great scarcity of labor, it is likely that a broad compromise will have to be arranged. The realty market is active and desirable property of all kinds is finding ready purchasers; the speculative element in this direction is strong, and numerous sales and re-sales of the same structures are recorded. Brooklyn is continuing strong in the house building line and those in position to know are of the belief that 1920 will be the largest year for work of this nature in this section; Long Island City is active in-

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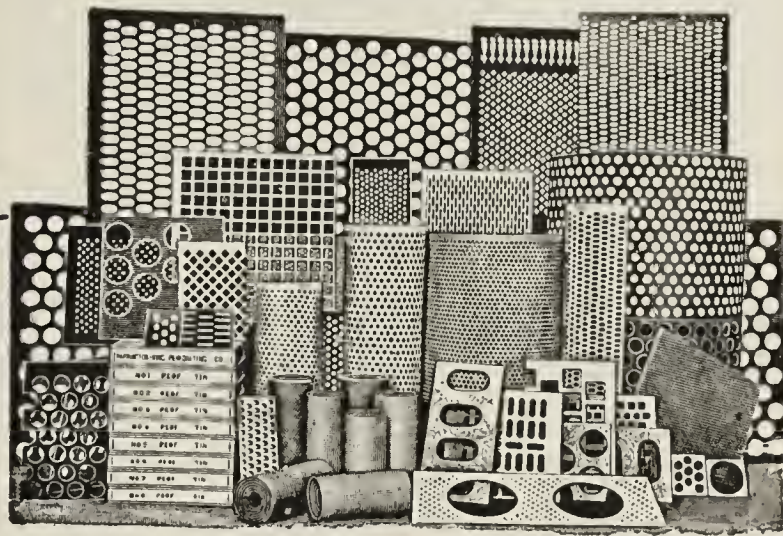
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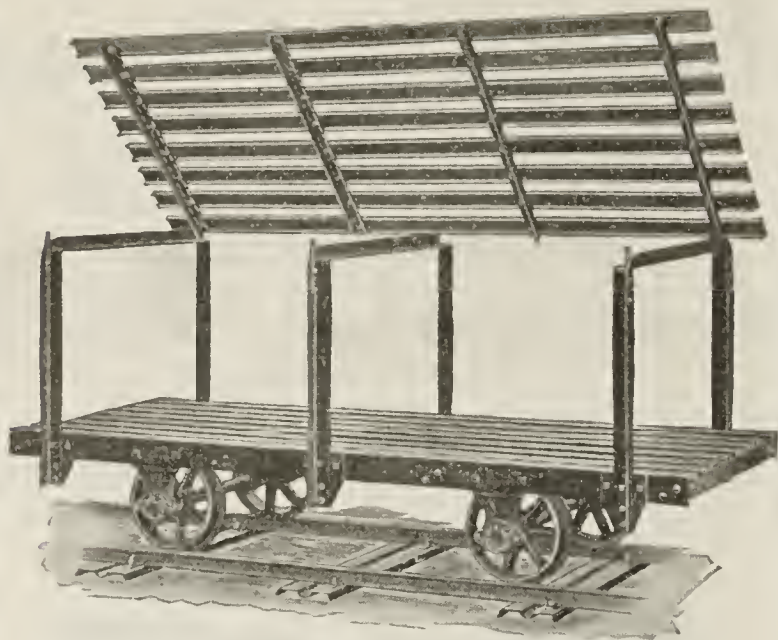
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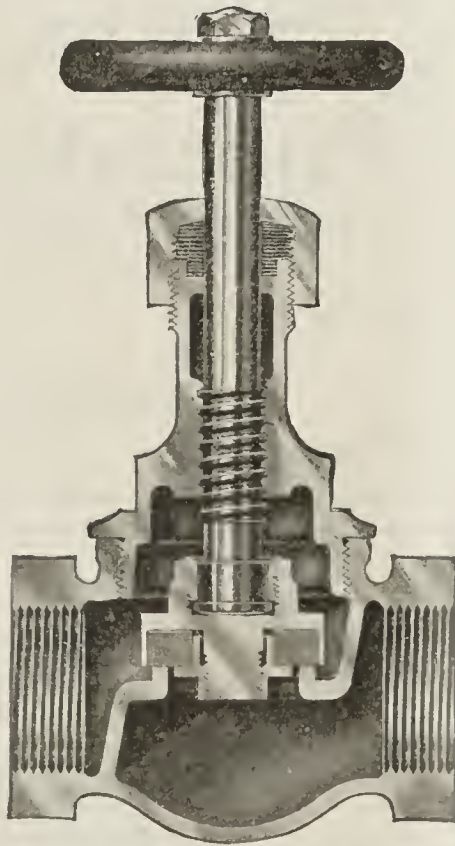
In the cross sectional drawing of the Jenkins Brass Globe Valve herewith note the uniformly heavy construction throughout. There are no weak points, no parts unable to cope with the service and wear demanded of the valve.

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Jenkins Valves

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dustrially, and operations on Staten Island are increasing. The noticeable shortage of building materials is working to the point of "spurring to action" among builders, in fear that when supplies are actually wanted within the next few weeks they will not be available.

Ten Barge Loads of Brick Available in N. Y.

Altho the call for common brick has slackened a little in the New York market, due to the severe winter weather now experienced and the high level prices prevailing for this commodity, operations are still the feature of local affairs in the building industry, and sort of a pinnacle around which other matters hinge. The light buying of the past fortnight has given an opportunity to stock up a little and the result is that there are now about ten barge loads available. This supply with the amount on hand at the yards of the various dealers is expected to be sufficient to tide over the remaining weeks of the winter. No cargoes are arriving from the Hudson River points, due to the closing of this stream; it is said that manufacturers in this valley have close to 150,000,000 brick on hand for New York distribution, but little of this material will reach the local market before early spring. Shipments from the Hudson River yards are now being sent into New England by rail, as there is a shortage of common brick in the different important cities in this section. The price at New York City is holding firm at \$25 per thousand wholesale, alongside dock, and mason material dealers are asking \$30.45 for the commodity under first zone delivery. Prominent interests connected with the business express the hope that prices can be lowered as supplies grow more plentiful and the spring season comes around, realizing that present quotations will go to handicap the anticipated building movement.

Prosperous Year Ahead—Plans Improvements

At the annual meeting of the Ogdensburg (N. Y.) Brick & Tile Co. reports were read showing the year 1919 had been very prosperous and that 1920 promised to be even more profitable. The officers and directors elected are: President, Ralph P. Wells; secretary and treasurer, H. L. McCarther; directors: W. A. Hawkshaw, Edward Dillingham, W. M. Stephens, J. C. Tulloch, H. L. McCarther, R. P. Wells and W. A. Bell. The company plans to install a railroad siding and make other improvements this year.

Clay Products Finding Ready Sale

Burned clay products are finding a ready sale at the yards of the different material dealers in the New York district. Hollow tile, partition tile, drain tile, sewer pipe, etc., are in active demand for immediate operations. Prices hold firm with a general tendency to follow the brick market and move to higher levels. Fire brick is moving in a substantial manner, with the material selling around \$75 a thousand. The face brick market shows noticeable improvement, and with the orders as now accruing, fear is expressed that the manufacturers will be booked so far ahead as to make deliveries very uncertain. Present prices in carload lots range from about \$42 to \$55 a thousand for the different grades of materials.

Plant to Have 100,000 Daily Capacity

Borden Brick & Tile Co. has been incorporated at Goldsboro, N. C., by F. K. Borden, Jr., president; F. B. Daniels, secretary-treasurer. The capital of the concern is \$500,000. The company plans to spend \$125,000 in new buildings and will install \$25,000 worth of new equipment. The daily capacity of the plant will be 100,000 brick.

Will Erect New Plant Soon

The Raleigh (N. C.) Brick & Fuel Co. is planning to build another plant south of Raleigh, on the Neuse River, in the very near future.

New Brick Plant for Lillington

At Lillington, N. C., the Lillington Brick Co. has been incorporated with a capital of \$100,000 by George A. Norwood and E. G. Deans.

Meets to Elect Directors

The annual stockholders' meeting of the Hocking Valley Products Co., of Columbus, which operates a large face brick plant at Greendale, Ohio, was held recently when the following were elected directors: John G. Bates, Samuel I. Chamberlaine, W. B. Franklin, Norbert C. Heinsheimer, Alexander C. Massen, Langdon P. Marvin, James W. Murphy, Albert M. Polack, Sidney S. Schuyler, James B. Taylor and H. Montague Vickers, all of New York. The board met in New York the following week and elected the same officers for the coming year. They are Samuel I. Chamberlaine, president; Robert Taylor, Jr., residence manager, and F. J. Shaffer, secretary-treasurer. John T. Baker will continue as manager of the brick department and Arthur DeVinnish, as sales manager of the coal department. Reports covering the past year were very good in both departments and prospects are believed to be bright.

Brick Leads on Paving Contracts Awarded

A report of the various materials used by the Ohio Highway Commissioner during 1919 in the roads which were constructed and completed during the year shows that brick as a paving material was in the lead. The report includes only those roads which were improved under the direct supervision of the Ohio Highway Commission. The various materials were: Brick, 701,000 square yards; cement concrete, 688,000 square yards; waterbound macadam, 635,000 square yards; bituminous concrete, 356,000 square yards, and gravel, 22,000 square yards.

Worst Trouble is Car Shortage

John T. Baker, sales manager for the brick department of the Hocking Valley Products Co., of Columbus, discussing conditions in the face brick trade said: "The worst difficulty at the present time is the shortage of cars for shipping. Orders are coming in well and inquiries are numerous, indicating a most active season. But lack of cars and railroad congestion are preventing active movement. The plant at Greendale is being operated with full force and we are laying up a heavy stock."

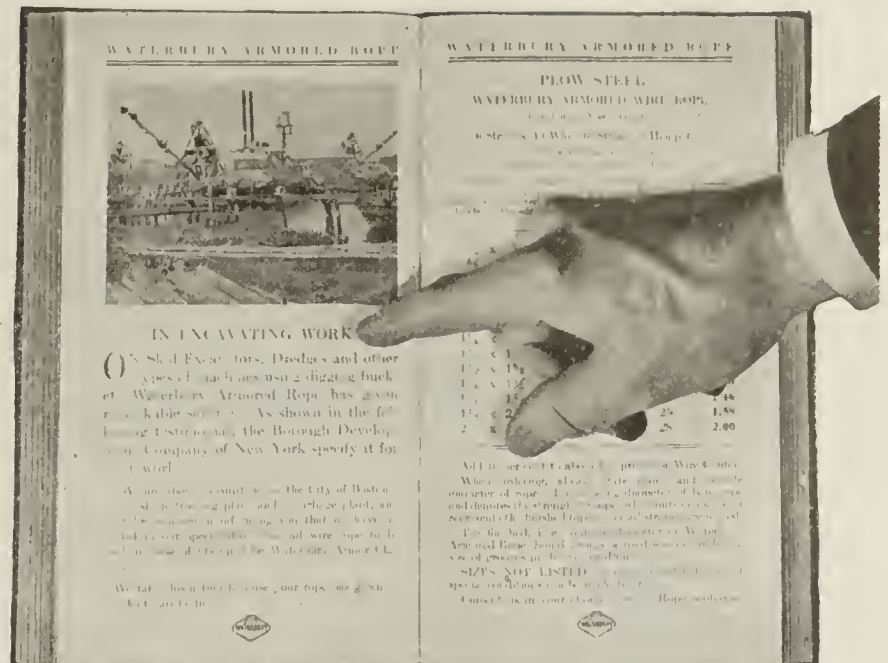
Brick Plant Chartered for Youngstown

Summitville Clay Products Co., of Youngstown, Ohio, has been chartered with a capital of \$150,000 to manufacture brick, tile and other clay products. The incorporators are: J. B. Morgan, G. F. Hammond, W. P. Barnum, P. Feibus and S. B. Mitchell.

Increases Capital to \$75,000

Papers have been filed with the secretary of state increasing the authorized capital of the Queen City Shale Brick Co., of Cincinnati, Ohio, from \$50,000 to \$75,000. The plant will be enlarged.

WATERBURY



SAFE LONGER

The initial factor of safety is maintained longer in Waterbury Armored Wire Rope (Gore patent) than in any other form of construction. The strands take the strain as in bare wire rope—but are protected from abrasion and exposure by the flat-wire armor—which also helps to retain the internal lubrication.

No flexibility is lost through this efficient protection, for the convex edges of the armor wire (the patented feature) permit as free movement as in the same size of bare wire rope, and prevent any interlocking in bending.

The Waterbury Rope Hand-Book explains fully the advantages of this patented construction—and tells all about every other sort of rope. Ask for a copy. It's free.

WATERBURY COMPANY

63 PARK ROW, NEW YORK

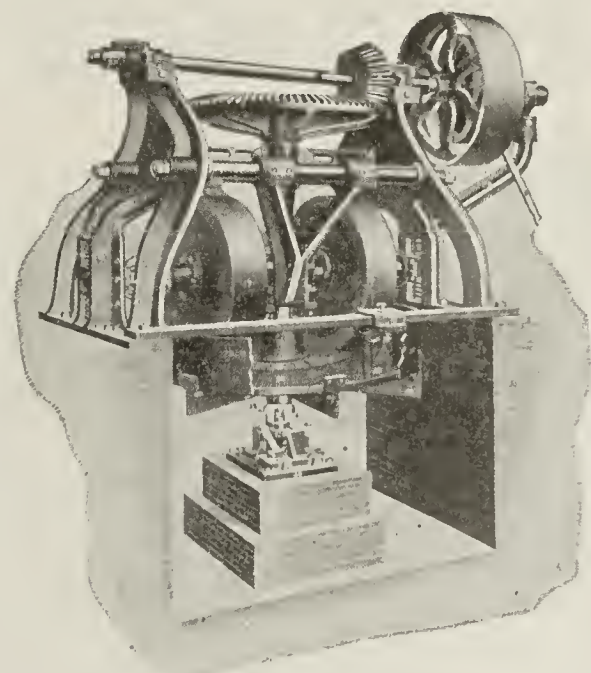
CHICAGO

SAN FRANCISCO

DALLAS, TEXAS

NEW ORLEANS

2350-V



Machines for

Crushing, Grinding, Pulverizing, Empounding, Tempering and Mixing, Elevating and Conveying All Kinds of Materials.

STEAM PRESSES FOR MAKING

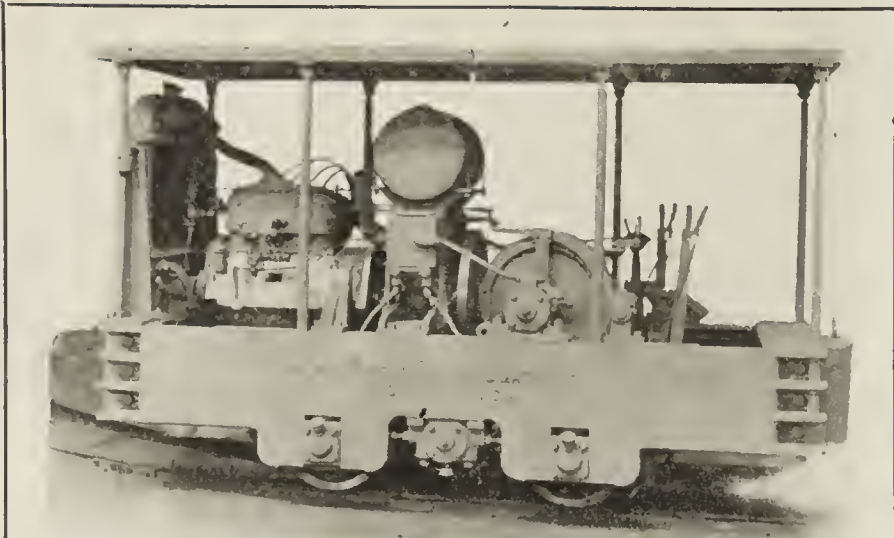
Sewer Pipe, Drain Tile, Hollow Blocks, etc.

All of the highest class designing and construction are manufactured by

THE STEVENSON COMPANY

General Offices and Works: WELLSVILLE, O.

Engineering and Western Sales Offices, Monadnock Building
CHICAGO, ILLINOIS



Simplicity and Economy

Simplicity in a yard locomotive usually results in economical operations.

There are no complicated parts such as Gears, Differentials, Clutches, and no Licensed Engineers, on the

BURTON

Gasoline and Kerosene Locomotive

It is simple, but strong. Of latest design—built for fast and economical hauling.

Our engineers will be pleased to advise you on locomotives, cars, rails, etc. Write for illustrated booklet.

The Burton Engineering & Machinery Co.
Cincinnati, Ohio U. S. A.

Bricklayers Ask Increase Again

Youngstown, Ohio, bricklayers will ask an increase of 35 cents an hour for 1920. The present scale is \$1.05 an hour and the new demands will be presented soon to contractors who will be given ninety days, or until May 1, to consider terms.

New Incorporation at Lawton

Comanche Brick & Tile Manufacturing Co. has been incorporated with a capital of \$100,000, at Lawton, Okla., by Ervin F. Frick, John L. Bobek and John L. Salway.

Plan Housing Corporation to Construct 5,000 Homes in Pittsburgh District

Civic and municipal support has been pledged to a plan advanced by William H. Walker, dean of the school of economics of the Duquesne University, Pittsburgh, Pa., for a housing corporation, to be financed by public subscription, for the construction of 5,000 workingmen's homes in the immediate Pittsburgh industrial district. The plan was unfolded by Dr. Walker at a meeting of the Chamber of Commerce in Pittsburgh.

The plan, as advanced, contemplates a five-year building program which would cost possibly \$15,000,000. One thousand houses a year is the schedule offered by Dr. Walker. His plan, he said, was merely an attempt to meet the situation created by the shortage of 8,000 houses in Pittsburgh. This shortage of houses, he said, is one of the principal causes of high living expenses and is a contributing factor in industrial unrest.

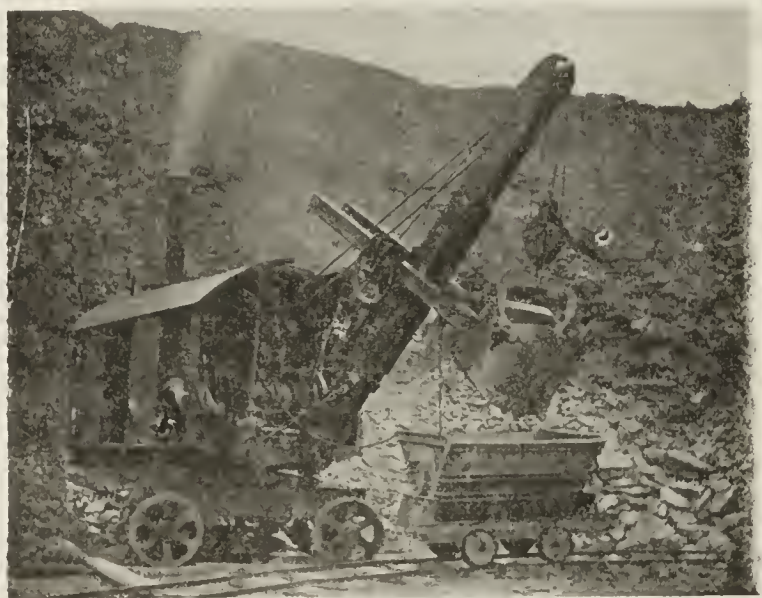
Dr. Walker's plan is to have the corporation chartered by the Chamber of Commerce, under the laws of Pennsylvania. He urged a capitalization of \$10,000,000, further money to be raised by borrowing upon the mortgages taken upon homes first built by the company. Altho the cost would probably be \$15,000,000 in all, the investment would probably not be more than \$8,000,000, or possibly only \$5,000,000, at the end of the five year period, Dr. Walker estimated. The capital would be raised by plotting out the district into sections, allotting a certain amount of capital to each district and then raising it by the methods used in war drives. Wholesale buying and wholesale building would mean a saving of between 10 and 20 per cent., he indicated. The homes should be sold, according to the plan, at the actual cost, plus four per cent. interest upon the money invested, and such items as need be for insurance and similar charges during the carrying of the mortgage.

Car Shortage Dominant Note in Pittsburgh

The car shortage has taken the dominant place in the brick business in the Pittsburgh district. All activities are being gauged by the car supply, and the car supply is remarkably poor. The average runs a little less than 50 per cent., and so the average operation in most of the brick yards is very little in excess of that. Orders are becoming more and more numerous upon the market, and in many cases attractive propositions have had to be turned away. Quite a number of the brick makers are in the position where they will have to take no new business for six months. Orders are being taken for common brick, for shipment after April, and there is an apparent ability in some quarters to supply "back-ups," but the partition tile men are mostly off the market, and the hollow tile supplies are less than the current demand.

The weather, frozen unusually tight for more than a

BUCYRUS



PUT A BUCYRUS IN YOUR PLANT

It can cut the cost and increase the output. It can improve the quality of your brick.

LET OUR REPRESENTATIVE CONSULT WITH YOU

All sizes of revolving and railroad type shovels and drag-line excavators.

Send for Bulletin CB.

BUCYRUS COMPANY

SOUTH MILWAUKEE, WIS.

New York, Chicago, Cleveland, Birmingham, Minneapolis,
Denver, Portland, Ore. San Francisco, Salt Lake City

month, has opened up again and building is resuming in considerable volume. The first month of this year, too, has demonstrated beyond question the strength in the steel market and, as steel goes, so goes Pittsburgh. Unfilled orders on the books of the steel mills would seem to predict undiminished activity during the entire year, and that will be reflected in everything else, and the brick business is no exception.

Bill at Shipping Date Figures

In discussing the building material situation, Edwin E. Hollenback, president of the Master Builders' Exchange, Philadelphia, says that the majority of material men and manufacturers are not accepting orders at the present time on the basis of current prices for any future deliveries which are at all distant. Even commodities required within the next month or two are being furnished and billed at such figures as may prevail at the time of shipment. This situation, it is held, for the present at least, is absolutely unavoidable. The resentment felt by the contractors against this plan of operation is no more marked than is that expressed by the material men and the manufacturers in their own fields, for they, in turn, are at the mercy of circumstances precisely as the contractors are. The uncertainties attaching to all labor are so universal that none of the industries affected can predict, with any margin of safety, what production costs will be from one month to another. The building world, it is set forth, instead of being worse off than are other branches of industry, is among the last to yield to the universal compulsion which has upset calculations in other lines of production.

January a Record Month in Philadelphia

January operations in the building field at Philadelphia, Pa., show a startling contrast as compared with this same month in other years. Heretofore, the first month of the year has been considered as a period for review and a "little rest," but not so with January, 1920; the building movement under way in this locality continues apace, and is not giving any time for reflection to builders and contractors, manufacturers and building material dealers, or other interests connected with the trade, not neglecting engineers and architects, who report an enormous volume of forthcoming work. This augurs well for the future—it means a banner 1920, and that's what everyone is looking for. With delayed rail shipments, building material stocks are not being kept up as fully as desired, and a shortage is threatened. Attention is being riveted on industrial operations, and a good number of brick structures of this type are now in course of erection, or projected. Office buildings and other public structures are not far behind, and the movement in this direction is amounting into the million dollar sphere. In housing work, the city has been active for some time past, and numerous brick dwellings are being constructed in the municipality, as well as in the important suburban districts.

Introduce Resolution to Exempt New Residences From Municipal Taxation

A resolution has been introduced in the city council of Pittsburgh, Pa., exempting from municipal taxation all residences erected in the city within a period of three years. The exemption would run three years from the time of erection. Councilman W. H. Robertson, in introducing the resolution, declared that there is a constantly increasing shortage

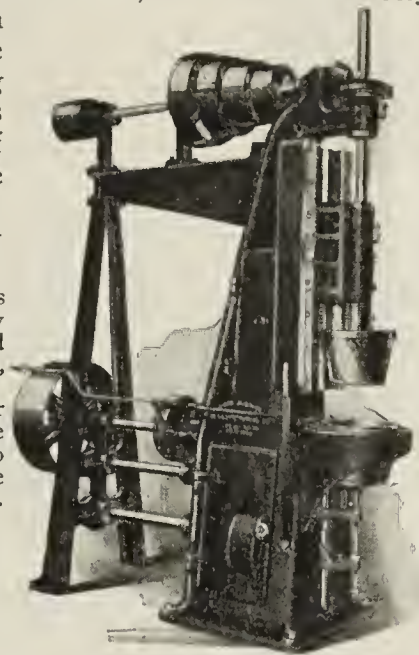
THERE is big money in the manufacture of Flower Pots, Stone Ware, Sleeves, Nozzles, Insulators, etc.—if you have the right kind of moulding machine.

One manufacturer who purchased a Baird Pottery Machine about eight years ago, and another machine two years later, reports that both were "a success from the start."

"The nicest part of this business is that all these pots are uniform and true in size, each one is exactly the same weight, which makes it much more convenient in stacking and burning the pots than it would be if these pots were made on the older style machines or made by hand."

The Baird Machine has speed, can be operated by any ordinary workman, and costs little in power, oil, and grease to operate.

Let us tell you what other manufacturers in your line of business are doing to add to their profit with one or more of these machines.



*Send Along a Sample
of Your Clay*

BAIRD MACHINE & MFG. CO.
265-69 Jefferson Avenue E., Detroit, Mich.



Light steel rails

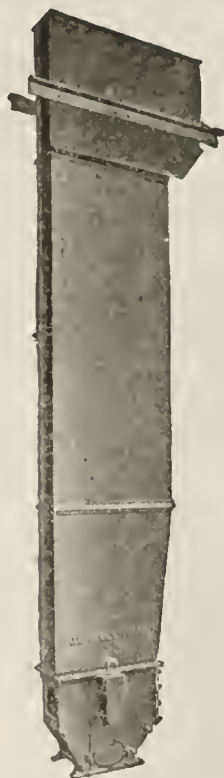
We saved the day for the Clay and Coal Operators in War Times by furnishing BUCKEYE MINE RAILS, whenever and wherever needed, and while many other Steel Mills were running exclusively on other material, you could not have operated without us at that time.

Now, in Times of Peace, we ask that you do not forget us, as we can, and will render the same unexcelled service, and furnish the same high quality of material. "Buckeye means best", and BUCKEYE LIGHT STEEL RAILS are better still. All sections from 12 lb. to 40 lb. inclusive always in stock for quick shipment.

Let us have your inquiries, and we will take the chance of developing them into orders on our books.

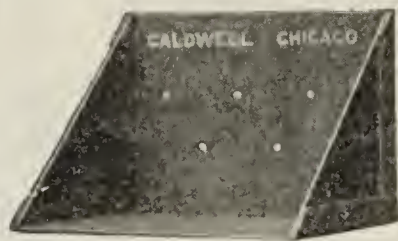
THE BUCKEYE ROLLING MILL COMPANY
STEUBENVILLE, OHIO

ELEVATING MACHINERY



FOR BRICK & CLAY PLANTS

Complete bucket elevators with or without steel casings, buckets fitted to chain or belt. Shelf buckets, standard steel buckets, malleable buckets,—chain, etc.



H. W. CALDWELL & SON CO.
CHICAGO, 17th St. & Western Ave.
NEW YORK 50 Church St. DALLAS, TEX. 709 Main St.

Unload, Elevate and Convey Your Fuel at an expense not to exceed Three Cents Per Ton

Telling the simple truth about the COLUMBUS AUTOMATIC COAL HANDLING MACHINERY compels us to make strong statements.

ACTUAL RESULTS have forced us to say things that sound too good to be true.

But these things must be said, because they are true, and it is important that every manufacturer should know them.

Many installations, of which the one at the Pearl Plant of the Cleveland Builders, Supply & Brick Co. is typical, have been made under performance-guarantee, as stated above.

In view of your present cost of unloading, perhaps we can help you—write for our Catalog anyway.

The Columbus Conveyor Company

Columbus, Ohio

Visit us during Convention Week

of houses in Pittsburgh, which results in an alarming increase in rentals, and that there is no prospect of relief from the new buildings which have recently been erected, inasmuch as costly materials and high taxes are making high rentals compulsory in those cases.

No Lax in Orders at this Plant

Recent issues of *Brick and Clay Record* have recorded the activities of the Hazleton (Pa.) Brick Co., setting forth the extensive operations under way at the plant. That there is no lax, nor that any such is anticipated is shown by the orders piling up for material, primarily for material for New York destination. Following a recent order for 1,300,000 common brick for this section, the company has taken a contract for the delivery of 500,000 common brick and 150,000 rough texture brick for the same location. The orders now on file aggregate about 2,150,000 brick, and insure the continuous operation of the works at capacity output for months to come. H. L. Campbell is manager.

Fire Brick Works Damaged by Fire

On January 20, the fire brick works of the General Refractories Co., at Lock Haven, Pa., were damaged by fire, with loss estimated at about \$75,000, partly covered by insurance. It is understood that the plant will be rebuilt.

Fire Destroys Kane Brick Plant

Fire of unknown origin destroyed the plant of the Kane (Pa.) Brick Co., on January 22. Officials of the company estimate the loss at approximately \$25,000.

50,000 Daily Capacity Face Brick Plant Will Relieve Wichita Falls Shortage

The West Texas Face & Common Brick Co. has been incorporated at Wichita Falls, Tex., with a capital stock of \$150,000. It will build and operate a brick manufacturing plant of a capacity of 50,000 face brick daily. The company has acquired a large clay deposit adjacent to the city as a source of raw material for the proposed plant. J. H. Boring, vice-president and general manager of the company, has had 38 years experience in the brick-making industry. E. M. Rath, of Chicago, is president, and B. Counselman of Wichita Falls, is secretary and treasurer. It is expected that the output of the new plant when it is started will do much toward relieving the brick shortage in Wichita Falls.

Provo Plant Will Resume Operations

Provo (Utah) Brick & Tile Co. is planning to reopen its plant soon. One of that city's architects has stated that it will take 1,500,000 brick to take care of the work planned already on hand and it is expected that Provo will need 5,000,000 brick this season.

Will Build Brick Plant Soon

J. C. Curtis, of Denbigh, Va., contemplates the erection of a brick manufacturing plant at Oriana Station, Va., with a daily capacity of 25,000 to 40,000 brick.

With Our Active Canadian Friends

John McCannell, president of the Milton (Ont.) Pressed Brick Co. Ltd., left on January 30 for Miami, Fla., where he will spend the next two months.

The Canadian Fire Clay Products Co., address care of Davis and Mehr, Confederation Life Bldg., Toronto, Ont., intend manufacturing fire brick in Canada.

Herb. J. Sissons, general manager of the Redcliff Pressed Brick Co., Redcliff, Alta., was a recent visitor to Eastern Canada. When in Toronto he visited several of the brick plants and was entertained at dinner by the executive of the Canadian National Clay Products Association.

The Dominion Iron & Steel Co., Sydney, N. S., contemplate the erecting of a brick plant costing \$250,000 for the manufacture of fire brick and shapes. They expect to use kaolin clay from Boxheath Mountain near Sydney, and silica from Whycomagh, N. S.

J. L. Thomas of the Manitoba Clay & Building Supplies, Ltd., Winnipeg, Man., which has recently incorporated for \$300,000 has been on a tour thru eastern Canada. Mr. Thomas thinks 1920 will be a big building year in Western Canada and has a large number of orders for brick supplies.

It is understood that Montreal brick manufacturers are figuring on an order to supply brick to eastern seaboard cities in the United States. Reference to this was recently made in the Dow Service daily building reports. They state that Canadian business men have been at Hotel McAlpin arranging for shipments of Canadian brick in the early spring.

The Clayburn Co., Clayburn, B. C., have commenced manufacturing a new building tile known as the Heath Unit Tile. The tile is made in two dimensions, the standard and the half tile which are used conjointly, giving thus by a simple method, a variation in interlocking and the facility of using together with brick without cutting. The tile bonds with brick veneer and can be reinforced with concrete without cutting the tile for bars. A feature of the patent is the corner and jambs. A pilaster tile is also made suitable for columns and veranda posts.



Housing Shortage Important Factor in Present Industrial Unrest

The American Institute of Architects, thru William S. Parker, secretary, has asked the Industrial Conference to consider methods of dealing with the American housing situation, inasmuch as the present housing shortage is regarded by the Institute as an important factor in industrial unrest. The institute suggests that housing acts of other countries and reports of wartime housing activities of the United States Government should comprise a sound basis upon which the Conference may work.



Business Papers Represent Excellent Advertising Medium

It is not to be thought that the trade papers exaggerate their importance as advertising mediums, or depreciate other mediums. Nor is it asserted that the trade papers have lifted themselves above the level of other classes of advertising mediums.

But it is manifest that they have advanced far towards the goal of 100 per cent. advertising efficiency in their particular, and peculiar, field.

Beginning, not so many years ago, further down the scale of efficiency in their field than almost any other advertis-

"HURRICANE"

AUTOMATIC

Stove Rooms and Mangles for Clay and Porcelain

are designed for individual plants.

Individually designed dryers result in greater uniformity of drying and greater uniformity of shrinkage—better ware.

They reduce floor space required. They reduce the number of moulds, labor, etc., from 50% to 75%. An equally large reduction in drying time.



Delivery End of Automatic Stove Room,
Buffalo Pottery, Buffalo, N. Y.

There are many other advantages of our installations which we would like to have an opportunity of explaining. Let our engineering department help you with advice and suggestions. No obligation.

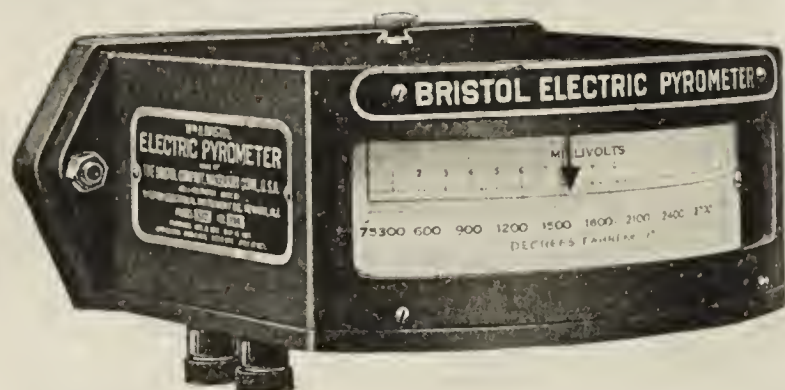
Illustrated Circulars will be sent you on request

Automatic and Truck Systems

The Philadelphia Drying Machinery Co.

Stokley St., above Westmoreland

Philadelphia, Pa.



TRADE MARK
BRISTOL'S
REG. U. S. PAT. OFFICE.

ELECTRIC PYROMETERS

The advantage of knowing the temperatures in Brick and Pottery Kilns is self evident. Bristol's Pyrometers are especially designed to supply this information.

The instruments are made in both Indicating and Recording types, for temperatures up to 3000° F. They may be used singly or in combination. For the higher temperatures such as maintained in Brick Kiln, the High Resistance Type, Indicator Model 319, or Recorder Model 437, as illustrated, are particularly well adapted.

The direct reading feature is an important advantage in Bristol's Pyrometers. This is possible only, because of the new Patented Automatic Internal Cold End Compensator furnished exclusively with this make; and which eliminates completely the usual cold end error.

Bristol's Pyrometers have a reputation earned by many years of service.

Let our Engineers write specifications and quote on your pyrometer equipment. Get copy of Bulletin AE-274.

The Bristol Company
Waterbury, Conn.



ing medium, their publishers were not long in awakening to their true position, and setting themselves earnestly at the task of business-like reorganization and specific progress.

Rightly, these publishers have endeavored to make their papers useful to the particular lines of business they represent, and to as completely as possible cover those lines. This policy has been so persistently and intelligently pushed that now the high-class trade paper is about as near to being a 100 per cent. advertising medium as it is humanly possible to expect.

Editorially, these papers have become wonderfully effective as records of progress, exponents of methods and processes, proponents of new tested methods, suggestors of merchandising plans, advisors as to financial as well as manufacturing and selling policies—mediums of exchange for whatever is progressive and vital in all lines affecting their readers.

The trade papers have shown a degree of wisdom in perfecting themselves as advertising mediums quite unique, and also very astute and courageous. They have pursued a policy of restricting their circulation to their specific fields to concerns and individuals directly interesting to their potential advertisers.

The cost of producing a really good trade paper is several times its subscription price, making its production a charge upon advertising income, and consequently creating an automatic obligation to the advertisers. This is recognized by the publishers by their policy of securing as readers as nearly all of the men who have to do with purchasing and consumption as is possible, and refraining from attempts to spread circulation beyond those classes. They do not refuse to accept subscriptions from people whose interest may be purely technical, or educational, but their efforts do not run in that direction.

The high-class trade paper of to-day is more nearly a perfect advertising medium than any publication in any other field. It is nearly a perfect advertising medium, in respect to its circulation and in respect to its suggestive and advisory service to its readers and advertisers. If it were possible accurately to estimate advertising returns, it would undoubtedly be found that returns from trade-paper advertising run to higher percentages than do those in any other class of mediums.

It is not to be forgotten that the trade-paper field is different from the field of any other class of advertising mediums. It is definitely known—delimited as we may say. The trade-paper publishers are able definitely to appeal to about every individual in their potential fields. Their congregations are within known bounds. They know how many possible readers there are of them, and it is not difficult to locate them all.

The business interests of all possible readers of a given trade-paper are almost identical. The work of the editors can be sharply focused. The work of the publishers is laid out for them. They have that great advantage over publishers of any other class of mediums; and they surely have utilized that advantage to the full.—*Contract Record*.

✱ ✱ ✱

Agricultural Courses Popular in the South

Nearly fifty per cent. of all the men actually in training under direction of the Federal Board for Vocational Education in District No. 6, comprising the three states of Alabama, Mississippi, and Louisiana, are enrolled in courses in agriculture in the various schools of the district.

This settles the fears expressed by many, a year ago, that upon their return from the army, the men would desert the farm for city life. In a district where practically eighty per cent. of the people come from rural communities, the men are realizing that scientific agriculture offers as great opportunities for success as are to be found in any line.

The largest group of agricultural students in the district is at the Mississippi Agricultural College, where more than three hundred disabled men are enrolled in agricultural courses. As many of the men have a very limited education, special classes have been organized to give them instruction in elementary school subjects in addition to their agricultural work.

The disabled boys have not been slow to realize that a year or two at a good agricultural college, with all expenses paid by Uncle Sam, is an offer not to be slightly turned down, and many are taking advantage of this first opportunity they have had in their lives to receive vocational training in scientific agriculture.

When their courses are completed they will not only be able to overcome the handicap they suffered on account of physical disability, but they will be enabled to carry on successfully in a line of work which constitutes the chief occupation of the people of the district.

✱ ✱ ✱

A Complete Day's Work for a Day's Pay

"When we get back to the practice of giving an honest day's work for an honest day's pay, all such theoretical questions as the high cost of living will automatically disappear.

"Great as these resources and the energy and integrity of our people, there is one problem of our engineering that I term today human engineering that is of far more importance than the creation of machines and methods with which you have been so successful in the past. Of what value is the skillfully devised machinery, the complex process, unless manned and operated by people whose heart and soul is in sympathy with the work which they are doing and who have before them the giving of a complete day's work for a day's pay?"—*Charles M. Schwab.*

✱ ✱ ✱

A Philosophy Bankrupt

"My emphatic conclusion is that Socialism as a philosophy of possible human application is bankrupt," says Herbert Hoover in the November issue of "The Nation's Business."

"The Whole of the various sorts of Socialism are based on one primary conception, and that is that the productivity of the human being can be maintained under the impulse of altruism, and that the selection of the particular human for his most productive performance can be made by some superimposed bureaucracy. Their weakness is the disregard of the normal day-to-day primary impulse of the human animal—that is, self interest for himself or for his family and home, with a certain addition of altruism varying with his racial instinct and his degree of intelligence. They fail to take into account, also, that there is but one sufficiently selective agent for human abilities in that infinite specialization of mind and body necessary to maintain the output of the intricate machinery of production, and that is the primary school of conception."

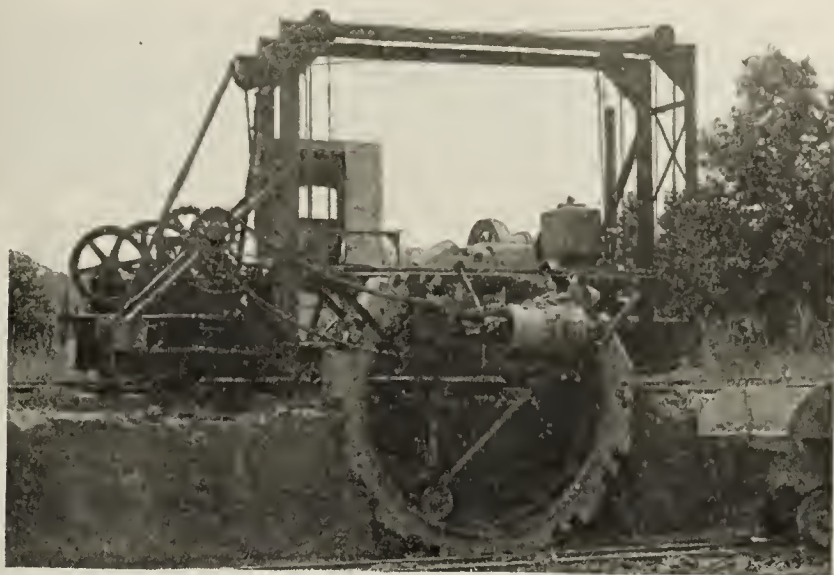


Figure the cost of UP-KEEP

Perfect mixture and saving in labor are not the only points to consider when you buy a clay digging machine—cost of upkeep is of equal importance. A digger that mixes clay and saves labor, but runs up expense for fuel and repairs, is an expensive machine at any price.

"The up-keep of the Buckeye Traction Clay and Shale Digger is small," writes one of our customers. "The only thing wearing out to any extent being the spades of the cutters that shear the clay off, and the side cutters. Our blacksmith relays these with steel again. It takes only two sets of cutters to run the season." The cost for oil and grease is negligible.

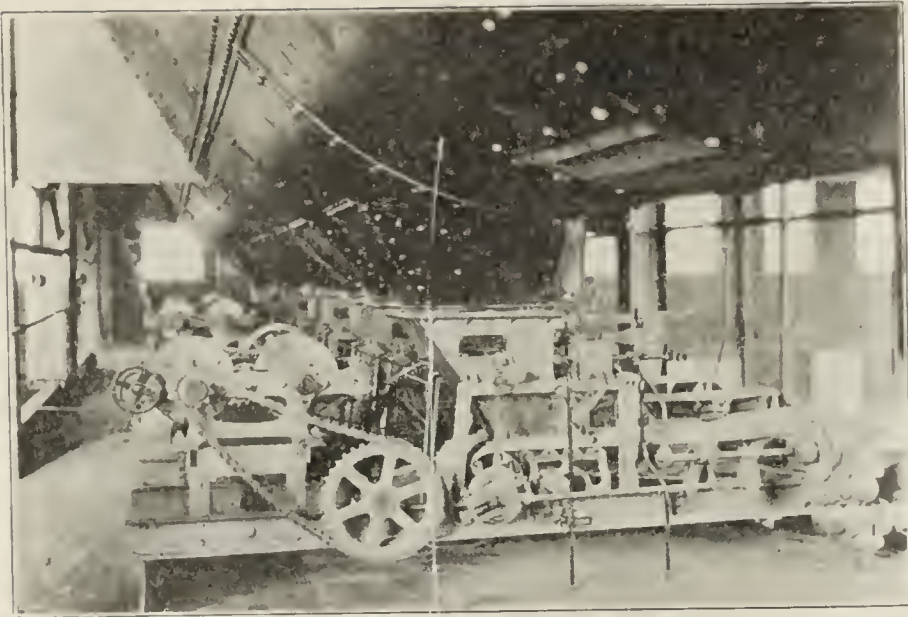
Write us about the conditions in your clay pit. We will be pleased to send you figures and data.

The Buckeye Traction Ditcher Co.,
Findlay, Ohio

Buckeye

Traction Digger

The new Model C. M. is equipped with a combination conveyor which enables operator to change his discharge from pit to bank delivery, alternating as desired.



Here They are— 9 of 'em

Working in batteries of three each, these 9 Schaffer Poidometers are measuring, weighing, and delivering material at less cost and with better results than the job was ever done before. Every third machine in each battery is equipped with liquid measuring attachment.

The Schaffer Poidometer

does all the work of your pug mill man. This saving in labor is sheer velvet. Machine improves the temper of column. No more cracked ware from the dryer. Weighs from 11½ to 21,000 lbs. per minute according to size and adjustment. Weight controls gate; gate controls feed. 99.75% accurate. Have you investigated the merits of this machine—savings in labor and increase in perfect ware that is possible at your plant? *Write us for information and data.*

The Schaffer Engineering & Equipment Co.

Peoples Bank Building,

Pittsburgh, Pa.

Charles M. Schwab intimates that the railroads of the country will need approximately 5,000,000 tons of steel rails during the next twelve months.

✻ ✻ ✻

The Associated Press January 6 quotes Herbert Hoover as saying: "With our taxes 600 per cent. over previous rates there is no need for drawing on U. S. Treasury for further loans." Mr. Hoover stated that aside from some secondary measures by the Government, the problem is one of ratification of peace and ordinary business processes. Mr. Hoover said: "The neutral countries have made money from the war and have asked no favors and given none. Outside of interest to Allies, Great Britain admits she needs nothing but commercial credits." Mr. Hoover admitted that the position of Italy is difficult and that some of her larger cities may need breadstuffs.

✻ ✻ ✻

Some Salesman's Don'ts:

Don't argue—illustrate.

Don't ever tell a prospect that he is mistaken.

Don't wear anything to attract or concentrate the eye of the prospect on your dress.

Don't ask the prospect a question to which he can say "No."

Don't talk price; talk quality even tho your price is low.

Don't run down the other fellow's goods; talk the reason why of your goods.

Don't say anything against the goods on which the prospect looks with favor, for you will offend his judgment on which every man prides himself.

Don't contrast your goods with those of a competitor, which the prospect has been using or knows about; talk your goods and let the prospect do the contrasting.

Don't talk loud, particularly at the opening of a selling talk; talk low in order to concentrate the prospect's attention by straining his hearing slightly.

Don't loaf on rainy days; they are good days to find the prospects in. They haven't so many callers. You don't have to wait and are permitted to stay longer.

Don't forget that there are more possible orders in a large number of fair prospects than in a few excellent prospects—so work and make a large number of calls.

Don't neglect the fact that legs often make up for brains in getting orders—altho one isn't much good without the other.

Don't neglect to read the trade journals in your line.

Don't smoke in the presence of a prospect unless he invites you to do so.—*David Gibson.*

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The Car Shortage Spectre

(Continued from Page 315)

report plenty of cars but they are not being moved."

It has been suggested by some that building construction should be declared highly essential and priority given in the matter of the shipment of building materials. It is well known that the Federation of Construction Industries has been working to this end, and contractor

organizations have been exerting what influence they possessed to produce such a result. However, it has been pointed out that a preference on one class of goods soon produces demoralization in the movement of all classes that makes matters much worse than the temporary shortage in one line. For this reason an Illinois manufacturer says that he is very much opposed to an embargo of any kind, which would naturally be necessary if any class of materials was given priority.

HOW YOU CAN HELP

There is one thing that nearly every manufacturer can do to help and that is the prompt unloading of cars received and loading to full capacity of outgoing shipments. The use of the motor truck wherever practical is also a good suggestion. Manufacturers report that they are doing all possible to cooperate in this regard.

There is another step which every clay products manufacturer can take and that is to make an unceasing appeal to the various railroad officials for better service in car supply. A clay products manufacturer says, "We believe that if the clay products concerns in general would start a howl about this car shortage, it would materially assist all in securing a greater percentage of equipment. We are not positive that this car shortage is affecting all industries alike. It appears that some localities are being more or less discriminated against, and this is usually due to clay plants being located in places where there is no incoming freight to amount to anything and a great deal of outgoing freight. We think that a general appeal from all our concerns to the Hon. Max Thelan, Director of the Division of Public Service, Washington, D. C., may assist us in securing a more adequate supply of cars."

Do what you can to help. Write, wire or interview the proper officials. Make them realize that the clay products manufacturing industry must have cars. The housing shortage is serious. At least one million homes ought to be built within the next year. The present car shortage situation is no jest. It is a matter of grave concern.



What's a PULSOMETER got to do with Mince Pie?

You'd never think that a PULSOMETER might have played a part in putting a big delicious piece of mince pie before you—but it does.

Keeping thousands of "mince pie fanciers" throughout the country satisfied with pies "Like Mother Used to Make" means maximum production in the Merrell Soule establishment. Because dependable, trouble-free equipment at every point is essential and because their pumping jobs required a steady, consistent, tireless worker, the makers of "None Such" mince meat selected PULSOMETERS. There is none such pump as the PULSOMETER, anyway. Can't be—it's the only pump we know that runs continuously without oil or attention.

It runs without lubrication because there are no pistons, rods, cams, stuffing boxes, no parts that slide together, no points of friction.

It runs without attention because there are no parts that need watching, adjusting or "nursing"—a PULSOMETER is "at home" and ready for work hung to a beam slapped to a wall, or rigged to anything any place. Just feed it steam, that's all, and a PULSOMETER pumps as long as there's anything to be pumped.

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QUESTIONS

A Two Cent Stamp May Bring
You Advice That Will Stop
a Waste, Improve Your Ware
or Lower Your Production Cost

Address all communications intended for this department to "Editor Questions and Answers," care of "Brick and Clay Record," Chicago.

Oil or Coal for Burning Tile?

935. *Ohio*—About how many barrels of oil would be required to burn a twenty-six foot round down-draft kiln filled with four inch drain tile? Northwestern Ohio crude oil is selling at \$3.25 per barrel at the present time, while coal costs us about \$7.50 to \$8.00 per ton.

Any information that you can give relative to the comparative cost of coal and oil burning under our conditions will be very much appreciated.

We feel quite safe in recommending that you continue to use coal as a fuel instead of oil. Coal in order to cost more than oil for burning your kiln of ware would have to cost in the neighborhood of \$9.00 per ton. Besides this, the use of oil would require that you install new equipment that would cost you a considerable sum.

The number of barrels of oil that it would require to burn a twenty-six foot round down-draft kiln set with four inch drain tile, would depend upon a great many different conditions and factors concerning the kiln, upon which we have no data. One advantage in favor of oil that you perhaps could make good use of, would be that you can attend to your kiln fire without much trouble because the oil would continue to burn without a fireman adding fuel all the time as is the case when firing with coal. All that would be necessary for you to do would be to walk over to the kiln occasionally and increase or decrease the size of the flame issuing from the burner according to the necessary requirements of the kiln at that particular time.

It is hard to tell just how much more it would cost you to burn with oil than with coal but we believe that it is quite safe to say, it will cost you ten per cent. more for the amount of oil required to burn a kiln of drain tile than for the quantity of coal necessary to accomplish the same results.

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Cost of Burning in Scove Kiln

941. *Ohio*—We have been burning with natural gas and are now compelled to change over to the use of coal as a fuel. Have you any figures available as to the cost of burning common mud brick with coal in old fashioned scove kilns?

The following data which was obtained from a manufacturer of common brick in Ohio, who burned his brick in a clamp kiln, will undoubtedly be of interest to you in your contemplated change in burning, from gas to coal. A clamp kiln is very much similar in construction and operation to a scove kiln, the only difference being that clamp kilns have permanent walls. Hence, the cost of burning and the results obtained are practically alike with both types of kilns.

and ANSWERS

Best Authorities in Every Clay working Branch Are Called Into Consultation—Their Advice is Free to You, Thru These Columns

Should a reply be desired by letter, send a stamped and addressed envelope with your question, and it will be answered promptly.

In the case of the above manufacturer, 320,000 brick were set in the kiln and it required about 75 tons of coal to obtain good burns. At the time these figures were obtained, coal cost the manufacturer \$5.00 per ton which meant that it cost \$1.772 per thousand brick for the fuel necessary to burn his wares. By using the figure that it costs you for a ton of coal, it will be possible with the use of the above data to figure approximately what your cost would be in burning with coal.

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How to Set Building Tile

942. *Illinois—We are planning to add hollow tile as one of the products of our output in the spring. Can you give us any information as to whether or not hollow blocks are set in the burning kiln as close together as are drain tile which are set in such a manner as to be touching each other?*

Hollow building block which are ready to be burned may be set in the kiln as close together as possible unless it is desired to salt glaze them, in which event a space of one-half inch or more should be allowed so that the vapors and fumes liberated by the addition of salt in the fire-box of the kiln can come in contact with the sides of the ware to produce the chemical change which results in what is commonly termed a salt glaze.

✻ ✻ ✻

How Much Should You Allow Agent?

943. *Maryland—We have no regular salesmen, hired on a salary basis because the capacity of our plant has been taken entirely by the local demand. However, we are now increasing our output so as to about double the requirement of our local market and it will be necessary for us to extend our market.*

We are in touch with a competent salesman who could handle our product as a side line to his other business. Perhaps the best way for him to handle this for us would be on the commission basis. Accordingly, can you advise or find out for us about what per cent., or how much per thousand is customarily paid for such service in selling common brick?

Brokers in clay ware that have no warehouse and carry no stock or accounts, are known to receive as low as twenty-five cents per thousand for orders that they turn in to the manufacturer of common brick.

On the other hand, building supply dealers who maintain a warehouse, carry stocks, carry accounts and do all the work, ask a commission of ten per cent. delivered price. This we believe is the maximum. In many sections of the country dealers receive at least \$1.00 per thousand on orders



YOUR LAMPS COST MONEY PROTECT THEM

Thousands of lamps are broken every year. The seemingly small loss of a single lamp may not be noticed but the annual cost represents a considerable percentage of the overhead expense. Every time a lamp is broken your cost of production is increased.

Why not safeguard your lamps with

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Flexco-Lok Lamp guards are made of expanded steel, well coated with tin. They are easily adjusted and **LOCKED** with a key. This prevents theft or unauthorized removal. The shape of the guard is scientifically designed to resist any shock to which it is subjected thereby safeguarding the lamp from breakage.

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Gentlemen: Attached hereto is our regular business letterhead. Please send us Free for service test one Flexco-Lok Guard for 40 Watt Lamp; and information concerning the Flexco-Lok Reflector Guard.

Also send me folder describing Alligator Steel Lacing—the hinge joint requiring only a hammer for application. Kind of lamp socket.....(If weatherproof, give diameter above shade holder rings.)

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Start the New Year With a Mathews

IF men are scarce—if strikes are threatening—put a Mathews Gravity Conveyer on the job.

For it's the modern way to move brick and tile from kiln to car, and around the yard. Patented flanges on the roller ends keep materials safely aboard. This makes guard rails unnecessary.

And the Mathews Gravity Conveyer accomplishes its tasks better than a squad of men. It speeds up the work and cuts costs.

We suggest that you investigate this modern, saving method at once. The demand for Mathews conveying systems grows bigger each day. It may shortly become impossible for us to offer early delivery.

Write us now.

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to the manufacturers where the dealer does not carry the account. With this information we trust that it will be possible for you to work out a basis that will be entirely satisfactory for your particular needs.

✻ ✻ ✻

A Lesson Union Labor Must Learn

Will labor unions ever learn that what any worker receives for a day's work is what some other worker has produced in a day and that if the output of a day's work is reduced that ultimately what they receive for a day's work will be reduced in like measure? They cannot get something for nothing.

To reduce production by reducing the hours of labor and then to increase costs by increasing wages is an attempt to secure something for nothing. It cannot be done.

It is of course important that good work should receive good pay, but it is just as important that labor should have good pay for good work in the future as it is today.

Labor must be taught the lesson that failure to keep agreements will soon end the making of agreements and that when union labor demands the impossible, when they refuse all leadership, even authority delegated by themselves, they are not only injuring their own cause, but are deliberately doing a gross injustice to society as a whole.

Union labor must realize that "one workman gets what another man produces. If a man cuts down what he produces below reasonable limits, he cuts down what the other man can get."

✻ ✻ ✻

Cheer Up

When Abraham Lincoln was a young man he ran for the legislature in Illinois, and was badly swamped.

He next entered business, failed, and spent seventeen years of his life paying up the debts of a worthless partner.

He was in love with a beautiful young woman, to whom he became engaged—then she died.

Later he married a woman who was a constant burden to him.

Entering politics again, he ran for Congress and was badly defeated.

He then tried to get an appointment to the United States land office, but failed.

He became a candidate for the United States Senate, and was badly defeated.

In 1856 he became a candidate for the Vice-Presidency and was again defeated.

In 1858 he was defeated by Douglas.

One failure after another—bad failures—great setbacks. In the face of all this he eventually became one of the country's greatest men, if not the greatest.

When you think of a series of setbacks like this, doesn't it make you feel small to become discouraged just because you think you are having a hard time in life?—*Helix*.

✻ ✻ ✻

The New York "Times" of January 14 says: "Speaking at a dinner at which Sir George Paish, British economist, estimated that total needs of Europe for next 10 years would be about \$20,000,000,000 in food and raw materials, international bankers asserted that further extension of credit to Europe by American Government would be impossible. Those who expressed this conclusion most emphatically were Paul D. Cravath, Frank A. Vanderlip, Senator Edge, and Herbert S. Houston. Mr. Vanderlip expressed a warning that the financial situation in Europe was even more critical than when he issued his report upon seriousness of financial and political affairs there nine months ago."

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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups," to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To

decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

The Passing of the Traditional Clay Convention

THE FACT that "time changes things" seems to be as much in operation at the present time as when its sagacious originator gave expression to this true saying. Pyramids, monuments, mountains, lakes, rivers, and even trees, survive century after century with little or no change but in man's affairs, change after change is indicative of his transitoriness.

Word has come that at a meeting in Minneapolis a few weeks ago a small committee of Minnesota clay products manufacturers decided to abandon and discontinue the Northwestern Clay Association. This organization has met year after year. A program was had which was worth-while and many times possessing merit. Those who attended the convention had no particular reason for feeling that their time or money was wasted. The opportunity offered for meeting fellow manufacturers and of exchanging ideas and information, amply repaid any monetary expenditure involved. Unfortunately, the association did not seem to possess any vital issue or indissoluble tie that bound the members together in an association which could be termed an absolute necessity to the welfare of the clay products manufacturing business of the Northwest. The officers labored faithfully and well but the absence of a cementing interest naturally led to disintegration thru nobody's fault in particular.

It is evident from this and from other developments that the traditional clay convention is slowly but surely passing into the discard. The demand of the hour is for the type of organization, business and commercial in character, which makes it imperative for the manufacturer in the particular branch of industry in which the association operates, not only to join, but to unceasingly support it. National advertising and promotional campaigns, exhaustive investigation of manufacturing costs, better business ethics and sales practices, standardization of product, and the

presentation of a united front to consumers, competitors, and legislators, are binding together clayworkers as they have never been bound before.

These are busy times. Moments are valued as money. The clay products manufacturer who can absorb educational articles of an unquestioned and unqualified standard, twenty-six times a year in his trade paper, does not feel the pull to a convention that is purely educational in character. The clayworker's hunger for sociability and fellowship is easily satisfied at the various gatherings in the different branches of the industry which have, and it is expected, will always continue to be held.

* * *

Abolish the Excess Profits Tax!

ONE of the numerous legacies which the war has left us is the excess profits tax. This, like the other post-bellum left-overs, such as government control of the railroads, the Lever law, etc., is becoming burdensome, troublesome and cumbersome. The excess profits tax was pressed into service for raising war funds. Now, that the war is actually over, why continue this industry suppressing instrument?

It must be admitted that the government needs money to continue functioning and no fair-minded or right-minded business man desires to escape his just obligations to the government that affords him and his property protection and makes it possible for him to do business. That is not the issue. The point is that the excess profits tax is now entirely out of place, more than that, it is said to be positively harmful.

Is it logical that the average individual, corporation, partnership or organization, knowing that profits above a certain point will be confiscated, will be encouraged to produce an excess of business above a certain required amount to net a minimum return? Hardly. It is human nature to rest on one's oars when the safety point in profits has been passed or

else lavish surplus earnings on improvements, necessary or otherwise. This last mentioned motive, frankly speaking, makes a man dishonest. Consciously or unconsciously he becomes a tax dodger, the motive and spirit of which is decidedly bad.

Then there is the matter of production. An organization that is not particularly anxious about surplus profits is likely to be careless about production. Under the present circumstances with demand exceeding supply in nearly every commodity manufactured, produced and sold, with the consequent pressure on prices, every ounce of material or commodities that can possibly be manufactured or produced, should be made.

In order to amend and simplify the Revenue Act of 1918, and to repeal the excess profits tax and certain other taxes for other purposes, Hon. Isaac Bacharach has introduced into the House, at Washington, a bill known as H. R. 11985 which provides for "a tax equivalent to one cent for each \$1 or fraction thereof of the amount paid for any article of merchandise when sold by a dealer for consumption or use, up to but not including \$500; and 5 cents for each \$1 on any article of merchandise when sold for \$500 and above." The bill further provides for a tax equivalent to one-half of one cent for each \$1 or fraction thereof on all real estate sales of \$500 and above, also a tax of 1 cent for each \$1 or fraction thereof on sales of all raw materials taken from mines, woodlands, waters, and so forth.

This bill would place the burden of collection on the dealer in most cases, or on the distributing factor selling to the consumer and for that reason would be as objectionable as the present "luxury" taxes. But its introduction reveals a line of thought in the minds of the nation's business men which is rapidly taking on added importance and weight.

* * *

Why the Hurry?

AT LEAST ONE Chicago newspaper is getting anxious about the Illinois road building program. This is commendable rather than condemnable. Certainly good roads, and plenty of them, are needed to pull Illinois

(and many other states) "out of the mud," and there are enough laggards and a goodly supply of "red tape" to interfere with progress, but materials are scarce. It has been said, and that authoritatively, that it will require the entire output of all the cement mills in the United States during 1920 to supply the road contracts already let up to the first of the year, to say nothing of those placed with contractors since that time. It is not going to be easy to get cement for new roads to be built of that material this year. For this reason, the Chicago "Tribune" says. "Use brick." Fine! We say so, too. It has been aptly pointed out that one of the best roads in Cook County (Ill.) is the so-called "Ridge road." It is made of brick and has lasted a quarter of a century.

But paving brick manufacturers, benefiting from the cumulative results of several years of promotion of brick roads, the advertising done by the National Paving Brick Manufacturers Assn., and the natural existing scarcity of all kinds of materials, are not any too well supplied with stock or do they possess the ability to make as much brick as they would like this year to supply the demand. Manufacturers and producers of other road materials are in the same predicament.

So, therefore, would it not be wise for those who are in a position to speak publicly, or even privately, and for those in authority, to counsel patience and wise deliberation in the matter of spending the public's millions for roads at this time when to force unduly the building of roads under present conditions would only serve to aggravate an already bad situation? The trouble is, we want to do everything at once. We have had three years of inactivity from a construction and road building standpoint and now we want to make up for this time of quiescence—all in a year. We want to build a million homes and thousands of miles of road in less than twelve months.

The country has tolerated the absence of a sufficient number of good roads so far. Why not wait a little longer, meanwhile building what we can, leaving that which remains unfinished until another day when materials and men will be easier to get.

C.B.M.A. of A. PROVES REAL DOLLAR VALUE

*Order for 550 Million Brick for One of Its Members Is Only an Instance
to Produce Actual Business for Member Way in Excess of All Anticipation*

FOR THE FIRST TIME in the history of the common brick manufacturing industry in America, there has been held a high-class, high-power, high-g geared, exclusively common brick manufacturers' convention. Exclusiveness seems

to be the proper thing in the clay products industry at the present time. Witness, the American Face Brick Association, the National Paving Brick Manufacturers' Association, the Hollow Building Tile Association, the Clay Products Association (sewer pipe), the Vitrified Pipe Manufacturers' Association, etc. The fact that the exclusive character of the Common Brick Manufacturers' Association has been a distinct asset was well demonstrated at the Columbus (Ohio) meeting, February 16, 17 and 18.

SIX POINTS OF SUCCESS

The accomplishments of the second annual meeting of the organization can be summed up briefly in six points:

FIRST: The remarkable expansion in membership. That this means something is graphically illustrated by the admission on the floor of the convention that at least one member, and he is not the largest, pays not less than \$6,000 a year as his proportion of the expense of the association.

SECOND: The realization, for the first time, on the part of the common brick manufacturers as a body of the seriousness of the many problems which confront them as an industry. As an example, it was pointed out that the number of common brick plants has decreased 75 per cent. during the past ten years, that the per capita consumption of common brick has likewise materially diminished, and also that the use of substitute materials has shown an uncomfortable increase. Furthermore, the need of a strong body that can speak for the industry in transportation, coal and legislative matters.

THIRD: The full manifestation of the ability and pleasing personality of Secretary-Manager Ralph P. Stoddard.

FOURTH: The near consummation of the association's advertising plans whereby it is expected to spend at least \$150,000 a year.

FIFTH: The inspiring spirit of unity, co-operation and aggressiveness shown by all of the common brick manufacturers present.

SIXTH: The unquenchable enthusiasm with which everyone seemed to be imbued.

TELLS STORY OF ASSOCIATION'S INCEPTION

William Schlake, the two-time president and driving force in the industry, addressed the membership at 2:00 o'clock on Monday afternoon, February 16. He traced the history of the organization back to its inception and pointed out its marvelous growth in a period of less than two years. He reviewed the situation in the common brick industry at the time of the recent hostilities, when it was unorganized, in consequence of which it suffered undue and unnecessary hardships. Mr. Schlake stated that common brick manufacturers did not feel that any organization existing at that time adequately represented the business, so the Common Brick Manufacturers' Association of America was organized. In the beginning, only a few members took active part in the organization and in order to make it worth while so that the association might do constructive and useful work, it was realized as a prime necessity that it must obtain more members to lend their support. The association has succeeded in doing this very thing with a remarkable degree of success, and records show that the majority of the common brick production in the United States is made in plants that are members of the Common Brick Manufacturers' Association of America.

LOCAL SECTIONS TO BE FORMED

It was brought out in Mr. Schlake's address that in order for the association to function at its best, it is necessary that local sections be formed in each brick center to take care of problems of a local nature. The big purpose of the Common Brick Manufacturers' Association of America is to do a public service, said Mr. Schlake by educating the public to the best building material that can be had, viz., common brick. Furthermore, its purpose is also to give an opportunity for its members to meet their fellow manufacturers and exchange ideas on plant management.

A glowing tribute was paid to Ralph Stoddard, who has been retained as secretary manager of the

WHAT IT POSSESSES *for the* BRICKMAKER

*sociation's Usefulness to Date—Other Work Now Under Way Stands Good
Organization Holds Remarkable Meeting at Columbus, Feb. 16, 17 and 18*

association. He characterized Mr. Stoddard as a tireless worker and fitted with unusual qualifications to be the secretary of the association. He gave him credit for the large accomplishments of the organization thus far and for the rapid growth which has taken place, and is sure that the association has found the right man for the right place.

TALKS ON COSTS

In order to permit E. H. Scull to catch a train, a slight deviation in the program was made at this point and a talk was given by him on the subject of "The Importance of Knowing Your Costs." This topic was taken up in an elementary manner and the advantages in having proper cost figures was illustrated in a simple manner. Mr. Scull, who is with Ernst & Ernst, stated that the majority of plants do not appreciate the relation between profits and costs, and that it would be of enormous benefit to the common brick manufacturer if he did. An analysis of cost data not only shows one's costs, but also helps to find leaks in different departments. Thus, it is possible to set out to remedy them. Furthermore, you can find the complete amount of time put in by the various men at work. At one plant where a complete cost system is in effect it was found that one burner in a 10-hour day puts in 40 minutes of actual work. At the present time, Mr. Scull stated, the Illinois-Indiana Division of the American Face Brick Association, consisting of some fourteen plants, was having cost systems standardized by his company so that all these firms could compare their costs on the same basis.

A COMMENDABLE REPORT

The secretary-manager's report followed. In this Mr. Stoddard completely covered the activities of the organization since he was appointed in May, 1919. That the organization has accomplished considerable during this short space of time was demonstrated in this report. Some of the work done included the holding of forty-five meetings in thirty-six cities in twenty-two different states to tell of the proposed plans for the organization, and in an endeavor to increase the membership. These meetings have been highly successful and have resulted in a greatly increased membership. Mr. Stoddard pointed out especially the fact that the association was not created by him to further any particular hobbies he might have, but was organized by a group of manufacturers who felt the dire need of such a machine to care for the multitude of problems that were before the industry and that he did not come in contact with

until after it had been formed and the machinery already set up waiting for someone to operate it. Only nine, then, were appointed on the board of directors, and now there are nineteen ready to serve.



It is Generally Conceded That Ralph P. Stoddard Has Made the Common Brick Manufacturers' Association of America What It Is Today.



Max D. Almond, Corsicana, Texas.



John P. Cahoon, Salt Lake City, Utah.



Thomas A. Willson, Pittsburgh, Pa.

A TRIO OF DIRECTORS FOR 1920

As a part of the work laid out before the association, the organization of local groups thruout the various sections of the country is important. These groups, some of which will come out of state or local organizations already in good working condition, will take care of problems of a purely local nature.

It is also planned to introduce a standardized system of cost accounting so that comparisons can be made by the various manufacturers, a feature which has proved so successful with the American Face Brick Association.

Mr. Stoddard was instrumental in having called a meeting of the National Federation of Construction Industries, which includes thirty-four different associations, for the purpose of protesting against the embargo on building materials issued during the recent coal strike. The construction industries are not fully recognized in governmental circles as a factor of importance. In this connection it must be remembered that construction is second only to agriculture in the number of men employed and capital invested.

Credit was given in this report to the cooperation extended by the American Face Brick Association at various divisional meetings. Also a weekly conference has been held between the secretaries of the three big national clay products associations identified with building construction in Chicago, viz., the Common Brick Manufacturers' Association of America, the American Face Brick Association and the Hollow Building Tile Association, to discuss and interchange plans which go toward making an organization more successful.

ASSOCIATION LANDS MAMMOTH BRICK ORDER

A startling revelation in this report was the story of how Mr. Stoddard succeeded in getting the Chicago Housing Corporation to use common brick after it had already decided to use other materials. This project is unusual in scope and includes the erection of 10,000 workingmen's homes to be sold at a low price of \$4,000 each on easy terms. The result of Mr. Stoddard's efforts in connection with this enterprise was an order for 550,000,000 common brick for this housing project. The discovery of "Dearborn Brick," which was made by William Carver, of the architectural department of the association, is to be utilized in the erection of these houses. "Dearborn Brick" is simply the name used to designate over-burned units which were formerly used to fill in holes around the clay plant. These are to be used to face

the new houses and their discovery is a great credit to the work of the association.

THE CONSULTING ARCHITECT

The retention of D. Knickerbacker Boyd, a prominent and able Philadelphia architect, to aid in the work of the association, has proved a wise move and much good has been accomplished because of his efforts. Work is now going on in the matter of the compilation of changes in the building



Wm. Schlake—The Man Who Was Unanimously Re-elected to the Presidency of the C. B. M. A. of A.

codes for seventy-five different cities thruout the United States which formerly discriminated against brick.



J. T. Reynolds, North Haven, Conn.



George A. Parry, Boston, Mass.



J. A. Mercier, Detroit, Mich.

TWO DIRECTORS AND A WELL-KNOWN DETROIT COMMON BRICK MANUFACTURER.

Other work of great importance has also been done, as was shown in Mr. Stoddard's report. Booklets have been and are in process of preparation designed to promote the use of brick. Two thousand copies of "How to Build and Estimate" have already been distributed and a new edition is now ready to be sent out. This booklet is for the use of the small contractor and is of valuable aid to him in figuring and constructing brick houses. A booklet which will include sketches, drawings and specifications, for thirty-two house designs that can be built at a low cost and which will especially appeal to the wage earner, is now in process of preparation and will soon be ready for distribution.

A booklet will also be published for the use of speculative builders.

SOME GOOD WORK

In advertising other building commodities, manufacturers have been unfair, or at least careless, with regard to brick and this matter has been brought to their attention. In one case, for instance, the Johns-Manville Co. had been showing a frame house in their advertising of asbestos roofing. A roar of applause greeted the announcement that upon complaint of the association, the frame house has been changed to one of brick. A reproduction of the first Johns-Manville advertisement showing the change was exhibited.

A conference of common brick manufacturers with the bricklayers' union officials has resulted in much accomplishment toward cooperation.

In the absence of the treasurer of the association, Ernest S. Barkwill, Mr. Stoddard read his report, which consisted of an audit by Ernst & Ernst of the association's books. This was accepted.

BRICKLAYERS UNION OFFICIAL DELIVERS "STEM-WINDER"

One of the headliners of the entire convention program—a talk which made everyone sit up and take notice—followed when Thomas R. Preece, vice-president of the International Bricklayers' Union, spoke impromptu. In a startling manner he seemed to remold and revamp all former opinions with regard to the bricklayer situation. He thrilled his listeners with the enormity of the possibilities of cooperation between these two factors, that is to say, the common brick manufacturer and the bricklayer. This created an entirely different atmosphere in the convention hall. Those who were

formerly bitterly antagonistic toward union bricklayers, now found themselves changing and remodeling their opinions with regard to them. For years it has been recognized that the reported opposition of the bricklayers to the education of apprentices was a serious obstacle to the extended use of brick construction. If Mr. Preece has presented the situation as it actually exists, and there is every reason to believe that he has, it is needless to say that brick manufacturers may take on a new air of optimism with regard to this particular subject. Reproduction of Mr. Preece's talk appears on another page of this issue.

STANDARD SIZE FOR COMMONS

"Why There Should Be a Standard Size for Common Brick" is an interesting question. It was presented by William Carver, architect for the association. Many reasons for the adoption of a standard size of common brick were given by Mr. Carver, among them was the advantage of having common brick the same size as face brick, so that the wall would be laid-up more easily and look neater. Other advantages and savings made by the adoption of the standard size brick were also shown.

When architects draw up plans and specifications for structures to be erected in other cities, it is often necessary to make important and costly changes in the plans, because of the difference in the size of brick in various localities, and thus there is caused a great deal of annoyance and inconvenience to the users of brick that could be avoided by adopting and making a standard size common brick.

However, it was shown in the discussion that followed that it was not possible to make all common brick conform exactly to size. But the members favored the idea and thought it a good plan to strive toward making common brick as near the size recommended as possible. Accordingly, the association went on record as favoring the adoption of a standard size common brick, measuring $2\frac{1}{4} \times 3\frac{3}{4} \times 8$ in., which every member is to manufacture hereafter, allowing, of course, for a reasonable degree of variance which cannot be avoided.

COMMON BRICK FOR FACING PURPOSES

Warren S. Griffiss, of the Baltimore (Md.) Brick Co., opened the session on Tuesday morning, February 17, with an exceedingly illuminating talk on "The Beauty of Common

Brick." The most important thing that Mr. Griffiss said was that very few of the common brick manufacturers really knew the beauty of their brick or the possibilities for its extended use as a material for the exterior walls of brick buildings. He suggested that every brickmaker lay up large panels and study the various mixtures of colors to see what really could be done with their products in this direction. He guaranteed they would be amazed at the results. He also related how it was necessary at times to use considerable persuasion to get the architect to accept brick piled up at the job which did not look as tho it would bring out the effect desired when laid in the wall. The same brick looked entirely different when laid up with different mortars and bonds; the rougher the brick, the better the appearance of the wall, he said.

COMMON BRICK FROM THE ARCHITECT'S VIEWPOINT

The second number on the program at this session was "The Architect and the Industry: The Vast Possibilities of Common Brick," by D. Knickerbacker Boyd, Fellow, American Institute of Architects, Philadelphia. This talk was an architect's views of the future of common brick. Mr. Boyd was on the War Industries Board and related some of his experiences with building materials at that time. He exhibited a very sound faith in building with solid brick, and also read some government specifications which, aside from being highly amusing, had the serious aspect of producing an impossible result—namely, the meeting of the specifications on the part of the brick manufacturer. It is one of the purposes of the Common Brick Manufacturers' Association of America to advise the government on these matters, and Mr. Boyd will aid in the preparation of new specifications.

The afternoon session on Tuesday, February 17, was featured by talks on the need of educating the public in the use of common brick and on plans for promoting the use of, and advertising brick. "You and Your Business," by D. H. Nichols, of the Nichols-Moore Co., Cleveland, was the first of these. This concern has been retained by the association as its advertising agency. Mr. Nichols mentioned the vast number of homes, warehouses, churches, theaters and other buildings that will of necessity have to be erected in the immediate future and pictured the enormous possibilities for common brick in this connection. The need for advertising was also discussed and Mr. Nichols stated that by advertising there was built up good-will, faith in one's product, education in the use of same and a reduction in the difficulties in carrying on business.

NEWSPAPER COOPERATION

"The Untold Story of Common Brick" was the subject of a brief talk by R. C. Collier, of the B. Anson Co., Cleveland. This concern has been employed by the Common Brick Manufacturers' Association to cooperate with the newspapers of the country in disseminating information in regard to common brick. Numerous stories are being furnished the press of the country as a part of the program of propaganda launched by the association. The newspapers are glad to have this cooperation and incidentally it helps the cause of common brick.

The closing feature of Tuesday's program was an inspirational, heart-to-heart talk by Secretary-Manager Ralph P. Stoddard entitled "What Three Brick Will Do." If there was anyone present who went out of the hall unconvinced of the need of a national advertising campaign for common brick and of the certain success of the association's plans which are now in the process of execution, such a manufacturer was not found. The talk was brief, to the point and convincing. It is hoped to produce in these columns in future issues reproductions of the charts which Mr. Stoddard used

to carry home the significance of the decreasing demand for common brick, steadily decreasing manufacturing capacity, ignorance on the part of the building public with regard to the use and advantages of brick construction, as well as its economic possibilities.

TELLS ABOUT THAT 550 MILLION ORDER

Tuesday's program was too long to be covered in two sessions so it was continued over into the evening following an informal dinner at which President William Schlake presided. There were three papers read after the dinner, the first of these being "Ten Thousand Houses of Common Brick," by James F. Basiger, general manager, Chicago Housing Corporation. Mr. Basiger told how Herman Matz, of the S. S. Kimball Brick Co., and Ralph Stoddard, of the association, switched him from frame to brick, resulting in an order for 550,000,000 commons—a truly worth-while order. Mr. Basiger illustrated his remarks with lantern slides.

"Putting Your Own House in Order" was the subject of an address by Ernest T. Bell, vice-president of the Hydraulic Steel Co., Cleveland, Ohio.

The closing feature was an illustrated paper read by William N. Cary, of Albany, N. Y., who has acquired fame for the preparation of worth-while contributions to the literature of the brickmaking industry. "Common Brick Homes, Old and New" was the subject of his talk, which was an inspiration to every brick manufacturer present. It is to be reproduced in a subsequent issue.

DIRECTORS ELECTED

The report of the nominating committee was unanimously adopted by the association. As a result the following directors were elected: For three years: William Schlake, Charles H. Bryan, Ernest S. Barkwill, J. F. Reynolds, George A. Parry and Fritz Salmen; for two years, John P. Cahoon, Charles Francis, W. N. Cary, T. L. Herbert, L. S. Collins and T. E. Wilson; for one year, B. F. Webber, H. C. Kleymer, Tom W. Green, Warren S. Griffiss, William K. Hammond, Max D. Almond and E. C. Sheimer.

OFFICERS FOR ENSUING YEAR

These directors met later in the day and elected for president, William Schlake, of Illinois Brick Co., Chicago; for vice-presidents, Chas. H. Bryan, Mercier, Bryan & Larkins Brick Co., Detroit; Fritz Salmen, Salmen Brick & Lumber Co., Slidell, La., William K. Hammond, New York City, and John P. Cahoon, Salt Lake Press Brick Co., Salt Lake City, Utah; for treasurer, Ernest S. Barkwill, Cleveland Builders Supply & Brick Co., Cleveland, Ohio.

Upon the recommendation of D. Knickerbacker Boyd and Mr. Buckles, the Common Brick Manufacturers' Association, in the closing hours of the convention on Wednesday morning, adopted a resolution urging the economic cutting of lumber and the scientific reforestation of all states, and recommending to the government and every state and municipal building department in the United States that only the inexhaustible resources, extracted from the earth, be used in the walls and roofs of buildings.

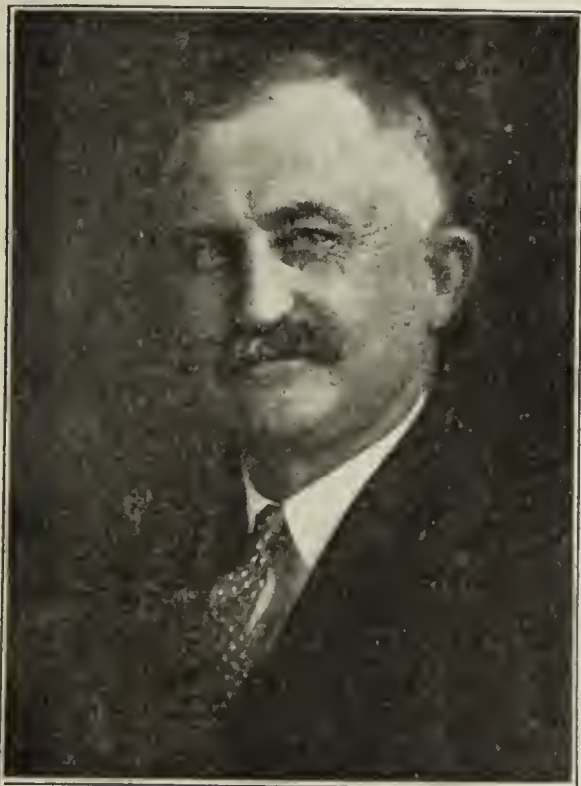
This resolution was adopted because of the economic waste brought about by the destruction in a few hours of trees that have reached their growth only after 200 years, which is inevitably leading to a complete exhaustion of the lumber supply of the world.

THOSE PRESENT

J. M. Jenkins, Jr., Jenkins Brick Co., Montgomery, Ala.
L. S. Collins, Los Angeles (Cal.) Brick Co.
R. O. Clark, R. O. Clark & Son, East Berlin, Conn.
M. H. Donnelly, Donnelly Brick Co., New Britain, Conn.
J. F. Reynolds, Stiles & Reynolds, North Haven, Conn.
John H. Miller, Washington (D. C.) Brick & Terra Cotta Co.
L. Perry West, West Bros. Brick Co., Washington, D. C.

J. F. Le Bahn, Le Bahn Bros., Chicago.
 C. H. Alsip, Calumet Brick Co., Chicago.
 Wm. F. Schlake, Illinois Brick Co., Chicago.
 Frank B. Lambert, Illinois Brick Co., Chicago.
 A. A. Biehl, Illinois Brick Co., Chicago.
 C. Nettlehorst, Illinois Brick Co., Chicago.
 Joseph Sidlo, Builders Brick Co., Chicago.
 Wm. F. Baeh, Baeh Brick Co., Chicago.
 B. F. Webber, National Brick Co., Chicago.
 C. A. Shank, National Brick Co., Chicago.
 C. J. Webber, National Brick Co., Chicago.
 J. B. Tuthill, Tuthill Bldg. Mat. Co., Chicago.
 Wm. G. Bohnsack, Carey Brick Co., Chicago.
 Herman L. Matz, M. Heckard & Sons, Canton, Ill.
 Edwin A. Gaskill, Collinsville (Ill.) Pressed Brick Co.
 John T. Hummert, Gem City Press Brick Co., Quincy, Ill.
 Wm. Hammerschmidt, Lombard (Ill.) Brick Co.
 F. R. Carter, Peoria (Ill.) Brick & Tile Co.
 A. E. Davis, Western Brick Co., Danville, Ill.
 Douglas F. Stevens, Acme Brick Co., Danville, Ill.
 Jas. R. Thomas, Standard Brick Co., Crawfordsville, Ind.
 F. G. Banker, Brooklyn Brick Co., Indianapolis, Ind.
 H. C. Kleymeyer, Standard Brick Mfg. Co., Evansville, Ind.
 J. E. Ford, Fort Wayne (Ind.) Brick Co.
 Tom Green, Tom Green Brick Co., Sioux City, Ia.
 T. J. Neiswanger, Standard Clay Products Co., Oskaloosa, Ia.
 H. C. Cramer, Lexington (Ky.) Brick Co.
 Jas. T. Howington, Coral Ridge Clay Prod. Co., Louisville, Ky.
 L. L. Richardson, Barbourville (Ky.) Brick Co.
 F. Salmen, Salmen Brick & Lbr. Co., Slidell, La.
 Warren Griffiss, Baltimore (Md.) Brick Co.
 R. A. Velie, Springfield (Mass.) Brick Co.
 Geo. A. Parry, Boston (Mass.) Brick Co.
 David M. Wiseley, New England Brick Co., Boston, Mass.
 Chas. F. Clippert, Geo. H. Clippert & Bros. Brick Co., Detroit, Mich.
 Geo. H. Clippert, Geo. H. Clippert & Bros. Brick Co., Detroit, Mich.
 Chas. H. Bryan, Mercier-Bryan-Larkins Brick Co., Detroit, Mich.
 J. A. Mercier, Mercier-Bryan-Larkins Brick Co., Detroit, Mich.
 Rufus P. Morton, Princeton, Minn.
 Martin G. Becker, Brookhaven (Miss.) Pressed Brick Co.
 John T. Osborne, Corinth (Miss.) Brick Co.
 P. L. Gaston, Riverside Brick Co., Hattiesburg, Miss.
 Otto C. Oehler, Continental Brick Co., St. Louis, Mo.
 Edward J. Ryan, American Press Brick Co., St. Louis, Mo.
 M. W. Atwood, Laclede Christy Clay Products Co., St. Louis, Mo.
 Builders Brick Mfg. Co., Hooper, Nebr.
 J. Fred Smith, Smith Brick Co., Omaha, Nebr.
 W. S. Goodrich, Epping, N. H.
 Hubert Somers, Somers Brick Co. Atlantic City, N. J.
 C. B. Rinehardt, Ellicott Brick Co., Buffalo, N. Y.
 Henry Benger, North Collins Shale Brick Co., Buffalo, N. Y.

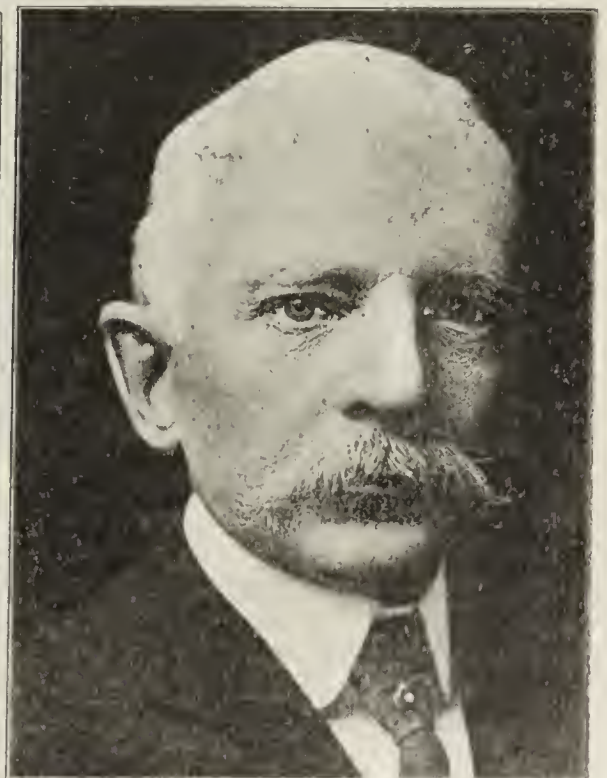
L. D. Walrath, Acme Shale Brick Co., Buffalo, N. Y.
 H. G. Whitmore, Rochester (N. Y.) Clay Brick & Tile Corp.
 Robert Love, Onondaga Brick & Tile Corp., Warner, N. Y.
 J. Terry, Terry Bros. Co., Kingston, N. Y.
 F. C. Van Eseltine, Merrick Brick Co., Syracuse, N. Y.
 B. J. Cummins, Merrick Brick Co., Syracuse, N. Y.
 M. M. Minter, Flint Brick Co., Albany, N. Y.
 J. M. Pureel, Duffney Brick Co., Mechanicsville, N. Y.
 W. N. Cary, Cary Brick Co., Mechanicsville, N. Y.
 W. K. Hammond, New York City, N. Y.
 Walter E. Hilton, Dunkirk (N. Y.) Brick & Tile Co.
 D. M. Moodie, Riverside Brick Co., Charlotte, N. C.
 Geo. M. Norwood, Geo. M. Norwood Brick Co., Goldsboro, N. C.
 R. S. Dingleline, Franklin Brick & Tile Co., Columbus, O.
 E. C. Howard, Columbus (Ohio) Fire & Face Brick Co.
 F. E. Kulp, Kulp Bros. Brick Co., Columbus, O.
 F. E. Mulby, Mulby Bros., Columbus, O.
 J. E. Morrissey, Cleveland (Ohio) Builders Brick Co.
 H. W. Conway, Cleveland (Ohio) Builders Brick Co.
 Lawrence B. Koblitz, Cleveland (Ohio) Builders Brick Co.
 E. C. Roberts, Cleveland (Ohio) Builders Brick Co.
 Ernest Farr, Cleveland (Ohio) Builders Brick Co.
 J. H. Robinson, Standard Stone & Brick Co., Bellaire, O.
 John A. Conrad, Richland Shale Brick Co., Mansfield, O.
 R. L. Hare, Wyandot Clay Prod. Co., Upper Sandusky, O.
 J. O. Wilcox, Alliance (Ohio) Clay Product Co.
 Carl C. Walters, Harris Brick Co., Zanesville, O.
 W. A. Howell, Collingwood Brick Co., Toledo, O.
 A. R. Kuhlman, Ohio Brick Co., Toledo, O.
 W. H. Crum, Trimble Paving Brick Co., Dayton, O.
 Edwin L. Mitchell, Mitchell Brick Co., Cincinnati, O.
 Chas. Francis, Francis Vitric Brick Co., Muskogee, Okla.
 C. M. Teats, Oklahoma Clay Prod. Assn., Muskogee, Okla.
 R. E. Buckles, Okmulgee Brick Co., Okmulgee, Okla.
 D. C. Ward, John H. Ward & Sons Co., Pittsburgh, Pa.
 Thomas E. Wilson, Walker Mills Stone & Brick Co., Pittsburgh, Pa.
 Jos. T. Byrne, Philadelphia, Pa.
 Wm. Conway, Philadelphia, Pa.
 W. C. Alwine, Alwine Bros. Brick Co., New Oxford, Pa.
 A. S. Cunningham, Lehigh Brick Works, Allentown, Pa.
 E. S. Shirmer, Lehigh Brick Works, Allentown, Pa.
 J. P. Callaghan, Sharon Clay Products Co., Sharon, Pa.
 A. W. Krousa, Sharon Clay Products Co., Sharon, Pa.
 Thomas R. Preece, International Brick Co., El Paso, Tex.
 Max D. Almond, Whiteselle Brick & Lbr. Co., Corsicana, Tex.
 John P. Cahoon, Salt Lake (Utah) Pressed Brick Co.
 H. K. Drury, Drury Brick & Tile Co., Essex Junction, Vt.
 R. W. Payne, Drakes Branch, Va.
 J. C. Robinson, Clay Products Co., Hampton, Va.
 H. R. Gorden, Salem Brick Co., Salem, Va.
 F. O. Corbin, West Virginia Clay Prod. Co., Charleston, W. Va.
 C. H. Whitescarver, Red Brick Co., Williamson, W. Va.



A. R. Kuhlman, Toledo, Ohio.



Carl C. Walters, Zanesville, Ohio.



Wm. Conway, Philadelphia, Pa.

SOME COMMON BRICK MANUFACTURERS WHO WERE CONSPICUOUS IN THE CONVENTION HALL.

Souvenirs at Columbus

"Old man H. C. of L." seems to have invaded the realm of souvenir givers to the distinct loss of those who usually are recipients of such tokens, for these little mementos were rather a rare article on the third floor of the Deshler Hotel during the recent brick manufacturers' convention at Columbus. Therefore, the souvenirs which were given out were received with more than ordinary gratification.

The American Clay Machinery Co., of Bucyrus, Ohio, presented a handy little paper covered memorandum book. The

International Clay Machinery Co., Dayton, Ohio, gave a very attractive double ink stand. The Fate-Root-Heath Co., of Plymouth, Ohio, were there with a beautiful leather covered card case containing a paid up accident insurance policy for \$1,000. The Link-Belt Co., of Chicago, gave a steel pocket rule. E. M. Freese & Co., of Galion, Ohio, presented a leather bill fold. The Scandinavia Belting Co., of New York City, gave an ever-ready silver pencil. The Stevenson Co., of Wellsville, Ohio, and Chicago, gave a decorated leather card case.



The N. B. M. A. CONVENTION at COLUMBUS

THE NATIONAL BRICK MANUFACTURERS' ASSOCIATION held its thirty-fourth annual meeting at the Hotel Deshler, Columbus, Ohio, February 18, 19 and 20. Between one hundred twenty-five and one hundred fifty manufacturers of various clay products were in attendance. In addition to these was the usual number of others interested directly and indirectly in the clay business.

MAKES EXCELLENT SUGGESTION

A. V. Bleininger, chairman of the committee on technical investigation, made a brief report at the opening session on Wednesday, in which he urged for more cooperation between the various branches of the clay products manufacturing industry. One of the suggestions which he made in this connection and which should not escape the attention of every progressive manufacturer was that the various branches should underwrite an exhaustive investigation of the problem of burning clay wares. The question of the burning operation is one which no single manufacturer or a



W. K. HAMMOND

small group of manufacturers can afford to investigate in any complete manner. The work of the technical investigation committee has been unfortunately handicapped by a lamentable lack of funds. For some reason or other manufacturers do not seem to appreciate the need for supporting this kind of work, and until this need is realized nothing can be done worth while.

AMERICANIZATION

Colonel Edward Orton, Jr., well known as dean of American ceramic educators, read a paper entitled "Americanism in the Clay Industry." This paper was an endorsement of universal military training and as such was received with considerable approbation by those present. Another contribution of interest was a paper read by Carl B. Harrop, of the Ohio State University, Columbus, Ohio, on the subject of "The Development of the Tunnel Kiln." Mr. Harrop illustrated his talk with lantern slides. There were other interesting papers read, valuable from an educational standpoint. Outside of the few specifically mentioned, most of the subjects were not particularly new, many of them having been repeatedly treated in the columns of this magazine and in discussions and papers almost without number in the days gone by.

RESOLUTIONS

The usual resolutions were introduced and unanimously adopted. The first of these was to the effect that the membership further to the best of their ability, the work of urging building with greater fire safety on the part of the public. The second resolution put the association on record as declaring idleness was odious. In explanation it might be said that inasmuch as "loafing" was not only disastrous to production but also was the cause of a great deal of the unrest thruout the country, it was deemed wise to condemn officially, as an association, this sinister influence. In another resolution the association asked Congress to pass the Townsend good roads bill now before that body. In deference to the admirable effort which Col. Edward Orton made in dealing so completely with the subject of Americanization, a resolution was passed endorsing universal military training as a substantial assisting influence. The last resolution was one honoring the deceased members of the association. Its adoption was signified by every member present rising.

BANQUET

The annual dinner was held on Thursday evening, February 19, at the Hotel Deshler. General Leonard Wood was slated to address the brick manufacturers but "pulled off" the usual stunt of headliners by gracing the affair with his absence. Dr. Edwin F. James, however, proved an able substitute. He spoke on universal military training. Mayor James J. Thomas spoke on "From Brickyard to Mayoralty" and Honorable James W. Cox, governor of Ohio, took as his subject "The Fruit of Strife."

NEW OFFICERS

The election of officers for the year 1920 resulted as follows: Wm. K. Hammond, New York City, president; first vice-president, W. E. Dunwody, Macon, Ga.; second vice-president, T. E. Wilson, Pittsburgh, Pa.; third vice-president, R. C. Burton, Zanesville, Ohio; treasurer, John W. Sibley, Birmingham, Ala., and secretary, Theo. A. Randall, Indianapolis, Ind.

NO RESTRICTION of BRICKLAYER APPRENTICES

So Says Vice-President of International Union at Common Brick Manufacturers' Association Convention—Also Tells Work of Union, Urging Bricklayers to Produce More—Meets Enthusiastic Reception from Brickmakers

By Thomas R. Preece

I HAD AN OPPORTUNITY of appearing before the common brick manufacturers some years ago in Chicago. I then represented only the Bricklayers' Union of the United States and Canada. Today I am here, however, not only as a labor man, but as a manufacturer, the vice-president of the International Brick Co., El Paso, Texas. From my experience in the last six or seven years as an officer of that company, with a half million dollar investment, I know something about the troubles of brick manufacturers, something of the responsibilities, something of the risks, especially, that we all endured or many of us endured during the war.

There were manufacturers, of course, who were fortunate enough to be in the territories where war necessities were needed, buildings and so on, and had an opportunity to continue their industry. But we, like many more where there was no war work, were compelled to shut our plant down. We were shut down for twenty-three months.

While it is true that most of you have stockholders whom you have to meet, convince and please, we have 100,000 stockholders to answer to and it is pretty hard to please them, not only in the manufacturing end of the institution but in the administration of the laws which they enact for you to carry out.

I want to say in reference to the remarks of your chairman relative to the humble assistance which I may give to the association, that it is nothing compared with what I would like to give and with what we intend to do for the benefit of the manufacturers of brick in this country. (Applause.)

IT TOOK A CALAMITY TO WAKE US UP

It does appear as tho it has taken a great calamity to come to the world to have people wake up and feel that they have some responsibility. We have been running along for many years thinking that the laying of the brick was all we had to deal with, all we cared for, and all we wanted to care for. The manufacturer was going along in the same channel. All he thought of was "make brick; sell them under any old conditions." There was no uniformity and no congeniality with his competitor. If he could break his competitor's leg, he would break it for him. (Laughter.) If he could steer his mules down the lane away from the job where he was hauling brick, he would do that too. All of us have had our own troubles.

I am not going to make any apology for the bricklayers' union because they are like other classes of society. They live in the environment they are led into by those who should lead. They have their shortcomings. They have their preju-

dices. I find that holds good, also, in the society amongst employers and other classes of society, so we are both at fault. As I said, it took a calamity to wake us up.



THOMAS R. PREECE

We have an international organization, and our next convention will be held in October. It was voted to be held in Akron and I hope the Common Brick Manufacturers' Association will have somebody there to talk to our men in convention and show them the necessity of both organizations working in harmony, together, to promote the industry in which we are vitally interested for our men and in which you are vitally interested for your stockholders. (Applause.)

I am going to ask this, further. We have state organizations, too. About twenty-five or twenty-six states out of the forty-eight have state organizations, known as state conferences. They meet every year in some town within the

confines of their own state. Delegates are sent from the local unions to the state conferences to adopt similar to what you gentlemen are trying to adopt, uniform rules and regulations for the state so that if a contractor in Cleveland should figure a job in Youngstown, he would know the rules and regulations of Youngstown, as in Cleveland, and, hence, he would not have to go to Columbus to find out. He would figure the same as at home.

They have judiciary powers, too, to settle grievances that may arise between members of the union and if a fine has been placed upon them by the local union and is not satisfactory, or they feel they have not had a fair trial, they may appeal to the judiciary board of the state.

ASKS FOR ASSOCIATION REPRESENTATIVE AT UNION CONFERENCES

So, I am going to also ask that the association have somebody at these state conferences so they may go back to the unions and interest the members in the promotion, stability and favor of brick, in lieu of other materials. (Applause.)

In that way, the two organizations can work together and will understand each other. We ask all contractors to employ our men to do their work. If they don't feel they want to employ us and get men outside of the union, that is as far as we go. We try to demonstrate with a job close by and show the difference, both in quantity and quality, if we get an opportunity. (Applause.)

There has sometimes been a thought on the part of brick manufacturers that to associate, or if we got too close together, that we would require them to unionize their yards. Well, if we started in to do that, we should have to start and unionize the place where the lime was quarried and go down the line and go into the forest where they hewed the timber—an endless chain of turmoil.

If we can get together and work together, I think we can accomplish a great deal. I am vitally interested in your advertising program because I believe that is the way to reach those we want to reach, that are anticipating building and for them to carry the propaganda along to build with brick.

I, some years ago, was in Canton to meet our union in session. They were having a discussion about the yards there. They were having a little fuss with one yard where they employed a non-union bricklayer. I told them to forget about it and get people to build with brick and they would have all the work they could do, and the other men also. They started their little campaign and the next trip there I saw the wagons with placards on the side, "Build with Brick and Union Bricklayers." Those signs on all the wagons looked very boldly at me. So, they did a little good there.

We can all do good if we get together and wipe away the prejudice and misunderstanding. Let's put our shoulder to the wheel to use brick and brick alone. (Applause.)

My union has its faults. My men have their faults. We can't help that. Men have different opinions and different likes and dislikes. I presume, Mr. Chairman, you find it in your association—that there can't always be harmony; there must be a little discontent sometimes. That will come in all classes of association, no matter who we are. What we want to do is keep it as good as we can and make it better.

OPPOSE USE OF PRISON MADE BRICK

I want to say that my institution naturally is utterly opposed to the use of prison made brick. (Applause.) I had

a very bitter experience in this very city some years ago in having our state conference vote to insist these brick ought not to be laid by our men, and after a hard fight we had that done. Only eight or nine years ago, Michigan was very prosperous in putting out prison made brick. I went in there and made a campaign against it and stopped it. It has not been done there since.

Recently we got a complaint from Oklahoma, asking us if we were aware that prison made brick were being shipped. I replied that we were not and immediately got in touch with our state conference secretary and had him put a stop to it.

We are working along that line. If the prisons want to make brick and do their own work, we can't interfere. But, to come out and compete with free labor and capital that is invested by citizens other than convicts, we are not going to tolerate it and won't have it. (Applause.)

I know that you all are aware and some of you, I presume have had some very strong talks with contractors and others about the low production. I want to confess that it is true that the bricklayers are no different than other classes of workmen. Some germ went thru humankind during the war and slackened up things and put them in a mood where they are not producing that which they should produce for the money they are getting. We sent out a circular last month to every organization in our institution calling our men's attention to it and telling them they must certainly produce more and lay more brick. There is no reason why they couldn't. The contractors were not pushing them. We wanted them to deliver a fair day's work for the protection of their own industry as well as the protection of the public.

We got some answers back from some contractors who were aware that circulars had been sent out and they said it had a wonderful effect. They found a difference of so many brick being laid over and above what had been laid the week before. We shall on the twentieth of the month in our magazine follow it up with another request asking our men to do their duty and protect their trade by producing more in the eight hours than they have been doing since the war. (Applause.)

I spoke of your advertising a little while ago. I believe if your president and secretary will instruct somebody to come to our convention in October that they could induce our own organization to contribute to this advertising propaganda that you are to put into execution to a larger scale than what we are doing today. I think they will do it very freely. (Applause.)

NO RESTRICTION OF APPRENTICES

Now, I know that there are many of you that feel sometimes, and not only feel yourselves, thru natural courses of observation but no doubt you were told by some who think they know our business, that there is a restriction of apprentices. I want to say to you that there is no such thing, either by law or otherwise, in our institution. The only thing that touches upon that point at all is the limiting of apprentices to contractors who can't teach the boy a trade. I am not egotistical as far as my trade is concerned but you gentlemen know that a bricklayer is a mechanic. That is, when I say a mechanic, he is a skilled workman if a bricklayer.

There is a great deal more difference between a bricklayer, as to his ability as a mechanic, a skilled workman, than there is to some other building trades. The government demonstrated to you that there are many so-called trades in the building industry, that they were capable of teaching young men in three, four, five or six months to be efficient workmen in the so-called mechanical trades.

The carpenters industry, when they increased their membership about 30,000 members, was increased from handy men, undoubtedly, men who never learned a trade at all. But, that kind of carpenters was needed merely to drive nails and nail up boards and saw boards off, and so forth, which is so natural for almost any man to do—a piece of carpenter work around his own house. All men are born natural carpenters, just as much so as all women are born sewers. I have never seen a boy in my life around three or four years of age whom you had to teach what a hammer or saw was for. Because, if it was in the house, he would get it and saw a piece off the chair or mother's table. They naturally come to it. If there was a hammer and a box of nails, the minute he saw it, he started driving nails in the floor and carpets, and every other place. That was what they were there for. Just so, a little girl three or four years old who gets a hold of the mother's work basket, either makes or tries to make something with the needle and cotton.

The asbestos workers are called mechanical trades. The electricians are called mechanical trades. It is true that a bricklayer can string wires and can do a certain amount of carpenter work or asbestos work around a building, but you never saw a carpenter lay brick or an asbestos worker or electrician lay brick, for the reason that a bricklayer, to be a bricklayer, cannot learn to be a bricklayer without he learns it when a boy.

One of the most difficult handicrafts in the building industry is the brick work and yet it looks the simplest.

The government tried it down in Kelly Field, Texas, where they tried to make bricklayers of boys and failed in every case but about two in one hundred boys. Only two had the ability after six months of training and could go abroad. Yet, we sent 10,000 men across the water. We sent 2,800 bricklayers in two bricklayers regiments to lay brick in France and England who never shouldered a gun.

HARD TO GET BOYS "PUT ON"

You may ask why we don't produce more bricklayers. It takes from three to four years and sometimes five to make a bricklayer. Very often the boys, after serving their four years, are not competent to go along the wall with the mechanic, and so he is given another year with his employer to finish his trade. But, the great majority do it in three. During the war, for two years there were no apprentices taken. We are all those trowels short and that is the reason for the scarcity of men last year and this year.

However, we have notified all our unions in our monthly circulars to put the boys on wherever they can be put on. We have to jolt up the contractors' associations to compel them to take the boys. Do you know the George A. Fuller Co. in the city of Chicago for ten years never employed an apprentice? When my youngest son wanted to go to the trade, I went around to the big contractors, those I would like him to go with, and found they had their three apprentices, which is all they are allowed at one time. I went to the Fuller company and said to Mr. Weatherspoon: "I have a boy I would like you to take on as an apprentice." He said, "I can't do it, Preece. You remember the last boy we had, Foley. That finished us." "But," I said, "this boy is my own and I want him to learn the trade." He called the vice-president in and told him. They finally said, "Well, we suppose we'll have to break the rule for Preece's boy to go to the trade." They took him and taught him the trade.

Now, you blame the bricklayers' union when large construction companies like that, that work in possibly fifteen different towns each summer and could be training boys in every city, will hardly take a boy. When anybody

tells you that the bricklayers try to restrict apprentices, remember that. We are only too pleased to get them because our life is until we grow gray. When you grow gray, then you are a busy time bricklayer. That means when they are very busy in the summer, they call on you. Otherwise, you stay at home with your wife and take care of your home and feed your chickens. A good bricklayer can lay 1,400 to 1,600 brick a day. When he has done that, he has done a good day's work. I am not saying they are all laying that 1,600 all over the country today, but we hope before the season is out that they will be.

I want to thank you for the opportunity of giving a few explanations as to the bricklayers' union and the relation that I hope will exist between you and us hereafter. I want to close by saying that I invite all questions that may come in.

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January Building Figures Reach \$3,553,790

A survey of the building situation at Philadelphia, Pa., shows that the outlook is decidedly encouraging. Brick and material men, contractors and others in the building trades maintain that 1920 will be the biggest and busiest year in construction circles in the history of the city. That enormous work is assured is shown by the building contracts recently placed and the new projects coming to the front; one of the biggest operations will include a warehouse building, with power plant, etc., for Sears, Roebuck & Co., Chicago, on the Roosevelt Boulevard, to cost about \$5,000,000. The January building figures, recently compiled by the Bureau of Building Inspection, show that this month was the biggest January experienced in the building line for the past ten years, the total valuation of the work reaching \$3,553,790. The major part of this work includes houses and factories of brick and other fireproof materials, for regular building brick is a very popular material in this section. February, altho handicapped considerably by weather conditions, has opened up in an equally strong way, and while a total quite as large can hardly be expected, the showing will be fine. The city is hitting its gait in an encouraging way; the building materials dealers are doing their best to keep up with the demand, and provide for a little reserve, but with the growing scarcity of various commodities, this is rather a difficult task.

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Sees No Serious Decline in Prices

J. H. Tregoe, secretary-treasurer of the National Association of Credit Men, New York, in a letter to members of that organization said: "We offer as our conviction that no serious decline in prices can be anticipated in the immediate future. On the contrary, the prices of some commodities are likely to advance further, but the whole burden of effort should be to encourage production of essentials and prevent them from reaching that price peak from which they must inevitably sharply fall."

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Increase Capital to One Million Dollars

The Bradford (Pa.) Pressed Brick Co. has increased its capitalization from \$200,000 to \$1,000,000.

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The Harbison-Walker Mining Co., Pittsburgh, has been organized with a nominal capital of \$5,000, by officials of the Harbison-Walker Refractories Co., to handle a branch of the raw material end of the business. F. H. Atwood is a director of the company.

HOW MORTARS AFFECT FIRE BRICK MASONRY

Adding Foreign Materials to the Mortar Used in Laying Fire Brick Often Reduces the Refractoriness of the Lining—Tests Show That Ground Brick Bats and Clay Make Effective Mixture

By Raymond M. Howe

IN THE MAKING of so-called fire brick mortars it is common practice to add certain materials to the ground fire clay. At times these other materials are added by the manufacturers of the mortar, while at other times they are added by the mason entrusted with the laying of the brick.

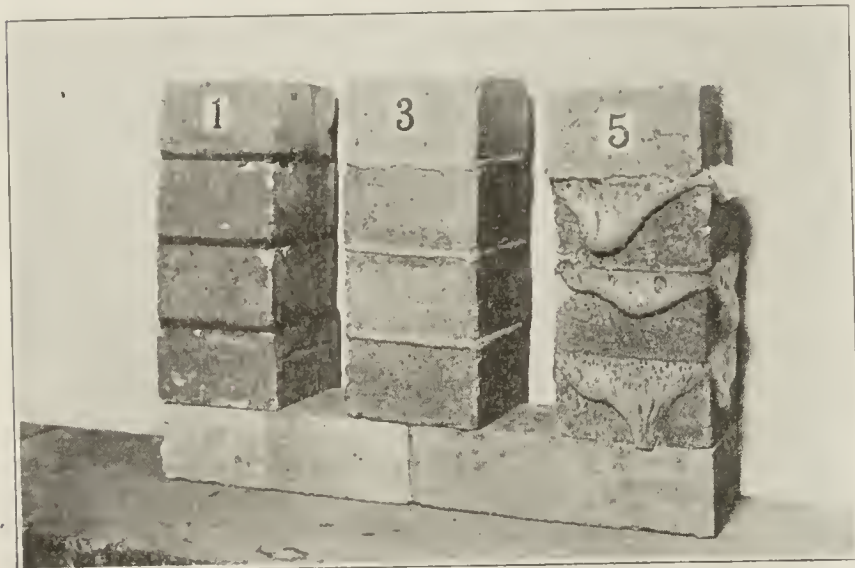


Plate 1. Column No. 1 Shows One of the Columns Before Being Heated. No. 3 Shows the Expansion of the Mortar After Heating to the Temperature of 1,100 Deg. C. Pier No. 5 Shows the Condition of the Mortar After Being Heated to 1,250 Deg. C.

Such materials are generally added to make the mortar set firmly without the application of heat, or to offset the natural shrinkage of the clay, or to cause it to burn to a dense structure by reason of decreased refractoriness.

Ground silica and alumina are often added, and since the clay itself is composed almost entirely of these materials, this practice is perfectly legitimate, in fact, the general properties of plastic clay can often be improved by making such additions. On the other hand, it is evident that the addition of certain other materials is not justified, and this paper is designed to show the effect of such additions.

In the experiments here reported, a very plastic fire clay was selected and different amounts of water-glass, salt, Portland cement, carborundum, asbestos and lime were added. The analysis of the original fire clay is as follows: Ignition, 11.12 per cent.; silica, 56.42 per cent.; alumina, 28.46 per cent.; ferric oxide, 3.12 per cent.; lime, 0.52 per cent.; magnesia, 0.44 per cent.; alkalis, 0.24 per cent. The fusion point of this mixture was Cone 30.

After the various mixtures were compounded, small samples

of each were fused in the usual type of furnace used in making such determinations. The results of this work are given in Tables I, II, III, IV, V and VI and are shown graphically in Fig. 1.

A careful examination of this data shows very clearly how seriously the addition of lime, Portland cement, asbestos and salt affect the quality of fire clay, the addition of only 5 per cent. of these materials lowering the fusion point about 200 deg. Fahr. Water-glass and carborundum did not exert so marked an influence.

The combined effect of the addition of asbestos and water-glass to fire clay may be appreciated more fully if a mortar of the following composition (Mortar No. 1) be studied. The chemical analysis indicates that about 10 per cent. of each of these materials was added to fire clay or silica cement in making the mortar.

ANALYSIS OF MORTAR NO. 1

Ignition, 8.94 per cent.; silica, 72.96 per cent.; alumina, 7.64 per cent.; ferric oxide, 1.11 per cent.; lime, 0.34 per cent.; magnesia, 3.01 per cent.; alkalis, 6.76 per cent.; fusion point, below Cone 11.

Piers were built in which this mortar was used in making the joints and after being dried they were placed under a pressure of 11 pounds per square inch and heated.

Plate 1 depicts the effect of such treatment, the column marked No. 1 showing a pier before being heated. The column marked No. 3 shows the effect of heating to 1,100



Plate 2. A Typical Arch Constructed With the Same Mortar Used in the Piers As It Appeared Before Heating.

deg. C. (2,012 deg. Fahr.) and the column marked No. 5 the condition of a pier after being heated to 1,250 deg. C. (2,282 deg. Fahr.).

*A paper read before a meeting of the Refractories Manufacturers' Association, in Chicago, Ill., January 14, 1920, and published by permission of the Director of the Mellon Institute of Industrial Research.

Influence of Materials Added to Fireclay

TABLE I
Portland Cement to Fire Clay

Clay	Cement	Fusion Point in Cones.	Fus. Point in °C
100%	0%	Cone 30	1730
96%	4%	Cone 27	1670
94%	6%	Cone 20	1530
92%	8%	Cone 19	1510
90%	10%	Cone 15	1430
80%	20%	Cone 13	1390
70%	30%	Cone 11	1350
60%	40%	Cone 8	1290

TABLE IV
Water Glass Solution to Fire Clay

Clay	Water Glass	Fusion Point in Cones.	Fus. Point in °C
100%	0%	Cone 30	1730
96%	4%	Cone 29-30	1720
92%	8%	Cone 29	1710
88%	12%	Cone 28-29	1700
84%	16%	Cone 26-27	1660
80%	20%	Cone 26	1650
76%	24%	Cone 20	1530

TABLE II
Lime to Fire Clay

Clay	Lime	Fusion Point in Cones.	Fus. Point in °C
100%	0%	Cone 30	1730
96%	4%	Cone 20-26	1590
92%	8%	Cone 17-18	1480
88%	12%	Cone 11	1350
84%	16%	Cone 10	1330

TABLE V
Salt to Fire Clay

Clay	Salt	Fusion Point in Cones.	Fus. Point in °C
100%	0%	Cone 30	1730
95%	5%	Cone 26	1650
90%	10%	Cone 14	1410
85%	15%	Cone 5	1230

TABLE VII

Clay	Bats	Fusion Point in Cones.	Fus. Point in °C
100%	0%	Cone 30	1730
75%	25%	Cone 30-31	1740
50%	50%	Cone 31	1750
25%	75%	Cone 31-32	1760

TABLE III
Asbestos to Fire Clay

Clay	Asbestos	Fusion Point in Cones.	Fus. Point in °C
100%	0%	Cone 30	1730
97%	3%	Cone 28-29	1700
94%	6%	Cone 19-20	1520
91%	9%	Cone 18-19	1500

TABLE VI
Carborundum to Fire Clay

Clay	Carborundum	Fusion Point in Cones.	Fus. Point in °C
100%	0%	Cone 30	1730
95%	5%	Cone 29	1710
90%	10%	Cone 29	1710
85%	15%	Cone 29	1710
80%	20%	Cone 29	1710
70%	30%	Cone 29	1710
60%	40%	Cone 29	1710
50%	50%	Cone 29	1710

Arches were then constructed, using the same mortar in the joints. Plate 2 shows a typical arch before being heated, while Plate 3 shows a similar arch after it had been heated to 1,250 deg. C. (2,282 deg. Fahr.).

These tests convinced the writer that altho the addition of these materials improved the working and setting properties of the mortar, mortars so made should not be used at high temperatures. If they are used, the foreign ingredients should be used in very small amounts. However, it must be a fact that fire clay, when used alone, does not give a satisfactory joint for some purposes—otherwise no attempt would be made to improve it.

Much of the dissatisfaction which has attended the use of fire clay to which no foreign material had been added can be traced to the shrinkage of the fire clay during the application of heat, for if this tendency to shrink could be overcome, the joints would be firmer, tighter and would not fall out of the arches.

A more logical way to prevent this shrinkage and so establish a firmer joint is not to add foreign materials to the fire clay, but to use the same material, taking the precaution, however, to add a certain amount of clay which had previously been shrunk.

To demonstrate this, some bats of first quality brick were finely ground and mixed with the same fire clay as was used

mixture No. 1 is 25 per cent. plastic clay and 75 per cent. ground bats, mixture No. 2 equal quantities plastic clay and ground bats, No. 3 75 per cent. plastic clay and 25 per cent.



Plate 4. Effect of Shrinkage in Mortar Varying From 25 Per Cent. Clay and 75 Per Cent. Ground Bats to 100 Per Cent. Plastic Clay.

ground bats and No. 4 all plastic clay. It can be seen that No. 2, containing half plastic clay and half ground bats, is far superior to No. 4, which is plastic clay alone.

Laboratory tests also showed that the joints made from the mixture of half ground bats and half plastic clay were stronger than those made from plastic clay alone.

Before passing final judgment upon the merits of such a mixture, however, it was decided to subject it to the same tests as were applied to Mortar No. 1 and Plate 5 shows the results of the column tests, No. 2 not having been heated. No. 4 having been heated to 1,250 deg. C. (2,282 deg. Fahr.) and No. 6 to 1,350 deg. C. (2,462 deg. Fahr.).

The results of the arch tests are shown in Plate 6, this arch having been heated to 1,350 deg. C. (2,462 deg. Fahr.). It will be noted that these joints are firm and strong and that they have not begun to soften. As a matter of fact, such joints are stronger when heated to higher temperatures than when heated to the temperature just mentioned.

In conclusion, the writer wishes to emphasize the harmful results which may follow the addition of certain foreign materials to ground fire clay and the good results which may be obtained by the addition of ground bats. In either case, the joints should be made as thin as possible, not only to lessen the chances of harmful results arising from the dif-

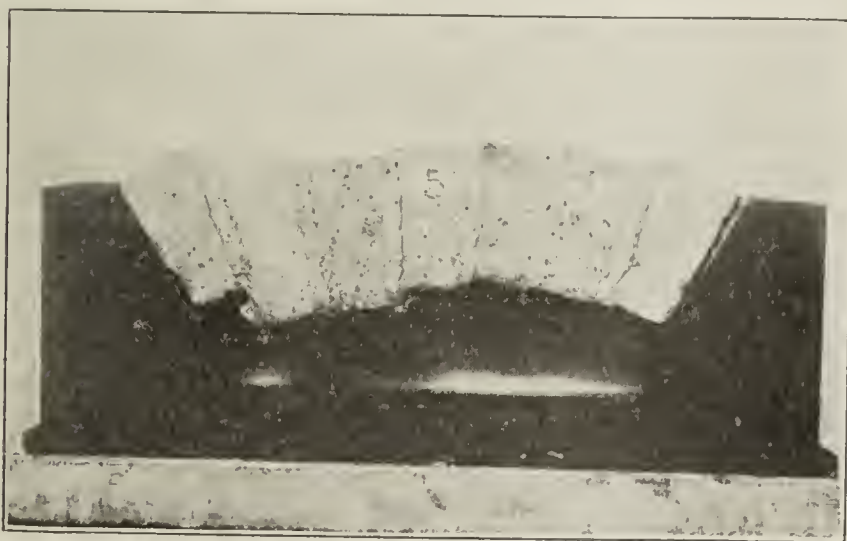


Plate 3. Appearance of a Similar Arch Heated to 1,250 Degrees Centigrade.

in the other experiments. The effect of this addition upon the fusion point of the clay is shown in Table VII and is decidedly favorable.

The effect upon the shrinkage is shown in Plate 4, where

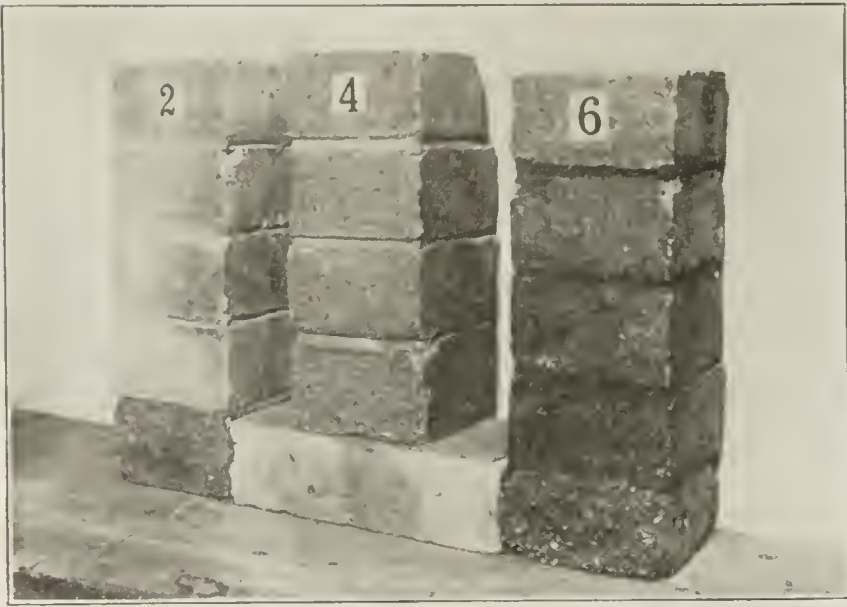


Plate 5. Piers Built With Mortar of Half Clay and Half Ground Bats. No. 2 Has Not Been Heated. No. 4 Was Heated to 1,250 Deg. C. and No. 6 to 1,350 Deg. C.

ference in the structure of the joint as compared with the structure of the brick, but to increase the relative proportion of brick to joint, for at no time can the joint be expected to exert a greater resistance to the action of destroying influences than can the brick itself, particularly if the brick has been selected with a view to resisting conditions such as the finished work will meet.

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Capital and Labor in Struggle Over Immigration Question

Congress shortly will be the scene of a struggle between capital and labor over the question of the suspension of immigration for a prescribed period, possibly two years, it is predicted.

Altho the net influx of foreigners since the armistice has been negligible, while more aliens are leaving than entering the United States, the American Federation of Labor, intent upon repressing the competition of immigrant labor, is preparing to swing all its influence to put thru a bill shutting off all immigration temporarily.

Employers are demanding more and cheaper labor during the present scarcity and with wages the highest in the history of the country, are preparing to fight the suspension bill which they believe would restrict the expansion of industry and retard the natural processes relied upon to reduce the cost of living.

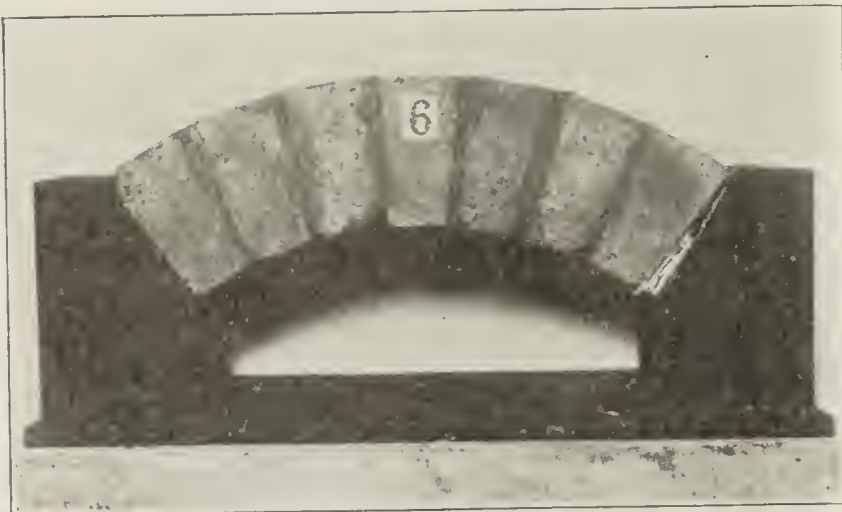


Plate 6. This Arch Was Made With Mortar Half Clay and Half Ground Bats and Was Heated to 1,350 Deg. C.

The aim of Chairman Johnson is to provide immigration regulations to go into effect upon the expiration of the present passport restrictions on March 4, 1921. The principal

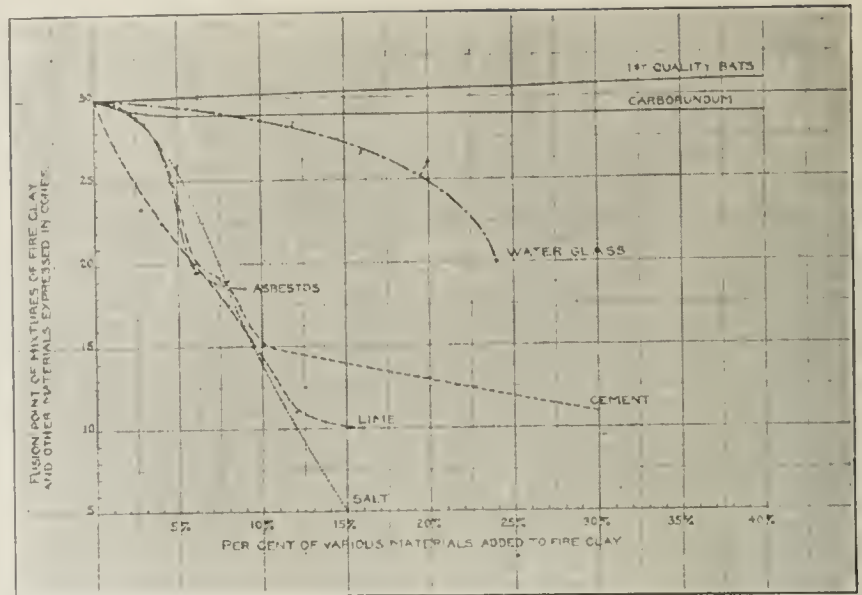


Chart Showing the Effect of Adding Various Materials to Fire Clay on the Fusion Point of the Mixtures.

measure submitted to the committee will be Representative Johnson's bill which provides for a two year suspension of immigration, for the prevention of the immigration of undesirable citizens, and for the supervision of aliens in this country until they become citizens.

The Federation of Labor will appear in support of the suspension provision, but will encounter great opposition in the committee itself. Several members are of the opinion that the suspension section will be eliminated by the committee and even if retained will be rejected by the house. The Federation, however, is determined to carry the fight to the last ditch.

The prevailing opinion is that Congress will refuse to suspend immigration for any period, but will provide additional safeguards against the incoming of dangerous aliens and closer supervision of resident aliens, possibly under a system of permits requiring them to report regularly to the authorities.

The influx of immigration from war burdened Europe, predicted by Immigration Commissioner Caminette, has not begun to materialize. For nearly a decade before the war, immigrants were coming in at the rate of 1,000,000 a year, approximately thirty per cent. of whom eventually departed. With the beginning of the European war, immigration declined until it reached 211,853 in 1918, while the emigration of aliens increased tremendously.

The net increase of population from immigration was 768,278 in 1914; 50,070 in 1915; 125,941 in 1916; 216,498 in 1917; 18,585 in 1918, and 20,790 in 1919. During the fiscal year of 1919, 237,021 aliens were admitted and 216,231 departed. From July 1 to December 31, 1919, the exodus was greater than the influx, 149,408 aliens being admitted and 161,862 departing.

In the last decade the net increase of the population from immigration has been about 4,500,000, but in the last two and a half years it has been negligible and even a year after the termination of the war more aliens are departing than are arriving. Resumption of immigration on a large scale, however, is expected within the next two or three years.

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Paramount Issues of the Day

Officers of the National Association of Manufacturers declared as paramount issues today, the need of prompt legislation by Congress for adequate and continuous upkeep and betterment of railroad properties, of a closer alliance between manufacturers and employes and for an organized expression by American industry to present its aims for development before the country.

PROGRESS MADE *in the* FREIGHT RATE CASE

Leaving No Stone Unturned to Bring Every Possible Evidence to Bear in Effecting An Equitable Readjustment of Freight Rates on Brick and Tile, the Hollow Building Tile Association Becomes Intervener in the Gypsum Rate Case

THE HOLLOW BUILDING TILE ASSOCIATION has become an intervener in the gypsum rate case before the Interstate Commerce Commission. This action shows that the attorneys for said association, the American Face Brick Association and the National Paving Brick Manufacturers' Association are alert to every opportunity, leaving no stone unturned to bring every possible evidence to bear in effecting an equitable readjustment of freight rates on brick and tile. The progress made up to the present time has been set forth in various issues of *Brick and Clay Record*.

The memorandum of the intervener was filed by Francis B. James and associated attorneys early in the current month. It assumes that the developments in the gypsum rate case at issue show that it has been reopened; and if it has not been treated in such manner, asks that it be reopened for a review of additional facts; a complete rehearing seems assured. The case in question (Docket No. 8386) covers the action of the American Cement Plaster Co. vs. the Michigan Central Railroad, et al, and with which is consolidated the case of the Acme Cement Plaster Co. vs. the A. C. & Y. Railway Co., et al (Docket No. 8297).

The facts as presented in the controversy in behalf of the Hollow Building Tile Association bring to light some interesting and pertinent data, not so much in the matter of legal findings in the sense of rate stipulation, but rather as regards the exact nature of production both of gypsum and burned clay products. In this, it is shown conclusively that hollow gypsum tile or block is a product of an industry separate and distinct from that of burned clay manufacture, and that like classification between the two lines of production, whether for freight rate purposes or otherwise, cannot be made.

THE GYPSUM TILE RATE CASE

The consolidated cases noted consisted of complaints that rates on gypsum hollow building tile from Grand Rapids, Mich., into Central Freight Association territory were (1) unjust and unreasonable, and (2) unduly prejudicial to the extent that they exceeded the contemporaneous rates on clay hollow building tile for transportation in the same territory. The Commission rendered a decision against the complainants on the first item of complaint, thru failure to sustain the burden of proof, but found in their favor on the allegation set forth in the second item—that of undue prejudice as compared with clay hollow building tile.

A review of the "high spots" of the testimony in the case is particularly interesting to manufacturers and others in the burned clay industry for it shows that the opinion of the Commission seems to have been based on the following conditions: (1) that gypsum hollow building tile or block is used for some of the purposes for which clay hollow

building tile is employed; (2) that clay tile or block is the gypsum tile or block's one competitor; (3) that hollow gypsum tile or block loaded about as heavily as hollow clay tile or block; and (4) that practically no open equipment was used for either kind of tile or block.

In connection with remarks regarding production, the Commission said, in its decision:

"The gypsum tile are made from stucco or ground gypsum rock. The stucco has been calcined in the making and the process of manufacturing the tile is merely to mix the stucco with water and wood fiber, mold the mass to form, and set the finished block out in the air to dry. One of the complainants adds a chemical to its mixture. The clay tile, which are made of clay mixed with water to a workable state, are made by molding the mass to form and then baking or burning. The complainants say that the only difference in the two processes of manufacture is really in the order of the steps, the gypsum tile being calcined or burned in arriving at the stucco stage and not after the block is molded, and the clay tile being first molded to form and then burned or baked."

And, in conclusion, the Commission said: "We find no such difference in value, risk of carriage, carload weight, or other incident of transportation as to warrant a rate on the gypsum tile so much higher than on the clay tile."

In the course of its opinion, the Commission pointed out the fact that clay tile or block rates are the brick rates.

GYPSUM PLASTER VS. BURNED CLAY INDUSTRY

In setting forth the basis of its request for a reopening of the case the Hollow Building Tile Association, thru its attorneys, says that the Commission apparently failed to recognize the fact that the gypsum or plaster industry is entirely separate and distinct from the burned clay industry. Clay hollow building tile or block, it is pointed out, is nothing but a form of brick and is produced by the same industry that produces brick and is properly classified with brick. This fact, incidentally, was recognized by the Commission, itself, in the case of the Humphrey Brick & Tile Co., vs. the Pennsylvania Railroad Co., June 1918. Again, in connection with a case of the Metropolitan Paving Brick Co., vs. the Ann Harbor Railroad, the Commission said, in part:

"Defendants' (carriers') justification of the reasonableness of the increased rates from Brookville is based upon the proposition that hollow building blocks properly take the same rates as brick in this territory.....The average pre-war prices of brick and hollow building block were about the same and, while the present prices of certain kinds of brick appear to be higher than the present prices of hollow building blocks, the differences are no greater than

those between the several kinds and grades of brick, which differences were not sufficient to justify a grading of rates."

GYPSUM HOLLOW TILE IN BRICK LIST?

Attorneys for the Hollow Building Tile Association point out that the only inference to be drawn from the testimony of S. A. Walker, made in behalf of the Acme Cement Plaster Co., at a hearing before the Commission at St. Louis, January 10, 1920, is that the gypsum interests want to be considered in the brick list, and that this, rather than the fact that the same rates should apply as on hollow clay building tile, is the main point involved.

Mr. Walker's complaint was that it was the design and purpose of the Carriers' Brick Committee to take clay hollow building tile out of the brick list and place same on a higher basis than brick, thereby increasing the rates on hollow gypsum tile. In other words, clay hollow building tile is in the brick list, taking the same rates as brick; the Commission held that hollow gypsum tile should take the same rates as clay hollow tile, as stated above; as clay hollow tile was in the brick list that therefore gypsum hollow tile should take the same rates as articles in the brick list. Mr. Walker, at one point of his testimony said:

"In this instance we are concerned with our competitor, the brick people, and in conversation with friends of mine who are in the brick manufacturing business here and elsewhere, they tell me that they have no objection whatever to the same rates being in effect on hollow gypsum tile as there are in effect on hollow clay tile, but they are threatened by the carriers with taking out the brick schedule, the hollow clay tile that has been there for some thirty or forty years, and putting it into a separate schedule to accomplish their ——— designs in making us pay the advanced rate; and are willing to make their friends, manufacturers of brick tile and hollow clay tile, pay that advanced rate, rather than give us the same rate that is in effect and has been in effect on hollow clay tile."

Attorneys for the Hollow Building Tile Association contend that the clay hollow tile industry is clearly a brick industry. Hollow clay tile is made by grinding the clay and making it into a stiff mud, and turning it into shapes just exactly as brick is made from stiff mud and burning the same exactly as most other brick is made. The brick industry which includes hollow clay building tile or block is separate and distinct from the gypsum or plaster industry.

In the manufacture of brick, including clay hollow building tile or block as one form of brick, the clay is pulverized by grinding machines, not by heat, while in the case of the gypsum block the application of heat is by boiling the raw material to get rid of moisture before the gypsum tile or block is formed. In the case of brick, it is formed from a stiff mud and then burned to hold its shape; in the case of pressed brick it is pressed dry into shape and then burned. The gypsum block is not burned to hold its shape, but it holds its shape by being mixed with wooden fibre running from 4 to 25 per cent., or it is reinforced by iron bars to enable it to hold its shape. The two industries should not be classified together.

REOPENING OF THE CASE

The initial request for a reopening of the case came from Mr. Walker in correspondence with Commissioner McChord. In a communication of October 28, 1919, he urged this action so as to present "two requirements", the first being for the claims filed by the hollow clay tile manufacturers during the years 1918 and 1919, and the second, the shipments from all producing points in Central Freight Association territory during the same years.

These "two requirements" were pertinent only on a complete reopening of the case.

To make sure that the case is reopened, attorneys for the Hollow Building Tile Association specifically request in their memorandum that it be reopened, as previously stated.

In justification of this action, it is pointed out in behalf of the tile association, that when the Commission considered the case it was presented on very narrow lines, and the Commission did not have presented to it facts which would show the magnitude and far-reaching effect of trying to classify the products of one distinct and separate industry with the products of another separate and distinct industry. It would seem from the record that it was merely a matter of putting in a rate from Grand Rapids on gypsum tile the same as on hollow clay tile from this point, when as a matter of fact there is no hollow clay tile manufactured at Grand Rapids and the rates from Grand Rapids are mere paper rates.

The real purposes show that it is proposed to extend the principle announced in the case to all Central Freight Association territory. The next step will be to extend same to Trunk Line territory and New England territory, and thence to Western Classification territory. It will not stop there, it is held, but an effort will be made to extend the rates not merely to gypsum partition tile, but to all other forms of hollow gypsum tile. The next step will be to extend it to other kinds and forms of gypsum tile and block, both solid and hollow. It is held to appear rather remarkable that during the hearing such strenuous objection was taken to any reference to solid gypsum tile or block.

The gypsum tile or block, either hollow or solid, are properly classified, it is set forth, in the plaster list, and ought not to be classified in the burned clay list. The result of the classification is to give lower rates on the finished product than on the raw materials, and on the hollow than on the solid (such as plaster board), while the solid would necessarily give higher carload weights.

Partitions are not made entirely out of either hollow gypsum tile or blocks, or hollow clay tile or blocks, but as the record shows, there are other forms of partition with which it comes into competition. There is no more reason why hollow gypsum tile or block should be classified with hollow clay building tile or block than with other materials used for partition purposes. If hollow gypsum partition tile is once fixed in the brick list the analogy will carry it still further and all gypsum products will be carried eventually in the brick list and it will be impossible to separate same. The mere fact that the thing is hollow does not determine its classification. The fact that a thing is solid or hollow ought not to be a controlling factor or classification. It is impossible and fallacious to attempt a classification or relation of rates which ignores industries.

Another interesting matter brought up by the attorneys for the Hollow Building Tile Association was the interchangeability of plant facilities in the brick industry, citing references made by James G. Barbour, chairman of the Traffic Committee of the National Paving Brick Manufacturers' Association in a previous rate case. He said that he could not find any place where one could divide the solid from the hollow brick coming from the various brick plants, as they ranged from 100 per cent. solid down to probably 25 to 30 per cent. solid in the various types of clay products that are made of the same group of mineral deposits and from the same plants. Further, he pointed out that every plant manufacturing products in the clay list can diversify their production over a number of items in that list. He also set forth that he did not see how gypsum tile could be tied in with clay tile, and that one could not use a burned clay plant to make gypsum tile, or a gypsum tile plant to make a clay tile.

CAR LOADING OF GYPSUM AND CLAY TILE

In regard to the Commission's contention that "hollow gypsum tile or block loaded about as heavily as hollow clay tile or block," mentioned above, various references are made in behalf of the intervener (Hollow Building Tile Association).

According to an original opinion expressed before the Commission, the loading of gypsum tile ranged from 45,000 to 65,000 pounds per car. On a straight average, this made 27.5 tons per car. The record in the case at issue, however, shows that the loading is less than 26 tons per car. Testimony was given setting forth that the average weight of gypsum tile per car is 51,774 pounds, being approximately 10,000 pounds less than the carloadings of clay tile.

According to records of carloadings of clay hollow tile at plants of the National Fire Proofing Co., presented by Mr. Council, a representative of that organization, the showings for the last three months of 1919 were: October, 33.43 tons; November, 33.23 tons; December, 33.58 tons. Mr. Barbour of the Metropolitan Paving Brick Co. gave information that the loadings at the Minerva plant of the company, devoted exclusively to the manufacture of hollow clay building tile, averaged 76,000 pounds per car, or 38 tons, in 1919; that a two months' run at the Imperial plant at Canton, showed an average loading of 90,000 pounds per car, or 45 tons; and that the average loadings at the Willow plant amounted to 76,000 pounds per car, or 38 tons.

Taking the figure of \$1.60 per ton as the average earning per car on clay hollow building tile over gypsum tile would represent \$10 per car, as indicated in the record. There is no warrant for the assertion made that one-third of the

revenue on clay tile is consumed in the payment of the damage claims (Mr. Walker). Mr. Council showed that the damage claims for the various periods as noted above, ranged from 23.5 cents per car to 24.5 cents per car to 23.5 cents per car, for the three respective months.

The record shows the loss and damage claims on gypsum tile to be approximately 16 cents per car. Considering the average revenue per car on clay tile to exceed the average revenue on gypsum tile at least \$10 per car, as noted, this more than offsets the insignificant loss on clay tile ranging from 23 to 28 cents per car.

As regards the Commission's opinion, "that practically no open equipment was used for either kind of tile or block," as previously noted, it is stated that this is true in the case of gypsum tile, the record as presented showing that for the period covered 100 per cent. of the cars with gypsum hollow building tile were box cars.

In the testimony presented by Mr. Council and other representatives in the hollow tile industry, it was shown that any type of equipment was used for clay hollow building tile, excepting possibly a flat car and drop bottom car (Mr. Council) and in another instance, that any kind of a car was used. Mr. Barbour testified that his company used both box cars and open-top cars for the shipment of this commodity.

In passing, it is interesting to note that the proper classification of burned clay products will be one of the subjects for consideration in a forthcoming hearing (Docket 10733) before the Commission. In the opinion of the Hollow Building Tile Association and its members, hollow clay building tile or block is merely one of the forms of brick and properly belongs in the brick list.



\$40,000,000 Project on Foot to House Garment Workers

To bring relief in the housing situation in New York, an interesting project is being planned by the Save New York Committee, covering the erection of a series of model brick tenements on property between Ninth Avenue and the North River, and Twenty-eighth and Fortieth Streets. The houses will be designed for workers engaged in the garment trades, and which district of manufacture will be located near this section. Accommodations will be arranged for 85,000 persons, and the project is estimated to cost \$40,000,000. J. H. Burton is chairman of the organization and will direct the work.



Increased Wage Demands Cause Slowing Up of Building Permits Granted

With one of the biggest building booms in prospect for Columbus, Ohio, various labor organizations, affiliated with the Building Trades' Council, are coming forward with increased wage demands. Labor leaders declare that the high cost of living is compelling them to make additional wage demands which they expect that the contractors will meet. Plumbers and steam fitters, altho granted an advance to 90 cents per hour, dating from February 1st, are now asking for \$1.25 per hour. Contractors have not yet replied to these demands. Bricklayers, now receiving \$1 per hour have made a demand for an increase of 37½ cents, making a scale of \$11 for eight hours' work. Painters and interior decorators have reached an agreement on a scale of 85 cents per hour. This is an

increase of 15 cents. Carpenters, who are now getting 75 and 85 cents per hour, have demanded 90 cents, dating from May 1st. Hoisting engineers, now receiving 75 cents per hour, are demanding \$1. Structural steel workers, granted 90 cents December 1st, are now demanding \$1 per hour. Laborers and hod carriers are getting from 50 to 60 cents per hour and wage demands are expected in those lines also. The effect of this wage demand is seen in a slowing up of permits granted by the Columbus Building Department. During the first two weeks in February the department issued 39 permits, having a valuation of \$117,405, as compared with 45 permits and a valuation of \$204,660 for the first two weeks of January.



To Organize \$100,000 Concern at Amarillo

William C. Pope, with offices in the National Bank of Commerce Building, Amarillo, Texas, has obtained a lease on the old brick plant at Cliffside, and is planning to operate the plant within a few months. It is proposed to organize a company to be known as the Amarillo Brick & Tile Co. The capital stock of the company will be \$100,000. The object of the company will be to take over the lease of land now held by Mr. Pope, and build thereon an up-to-date brick and tile plant.

It is reported that there is a seventy-five foot strata of fine clay for making brick and tile all ready for work. The nearest brick plant to Amarillo is at Wichita Falls, where common brick is selling for \$25 to \$28 per thousand and face brick at \$40 to \$45. Mr. Pope expects to operate the plant with gas and new machinery will be used to put the plant in first-class shape.

Lower Rate on Brick to Chicago

Indiana brick manufacturers who have complained of discriminatory rates, will be given temporary relief, it is stated, by an order of the Interstate Commerce Commission. The order explains that as a "temporary measure and without passing on the reasonableness of the present rate" it would establish a rate of \$1.40 a ton on brick from any city of the protesting group to Chicago. Crawfordsville, Veedersburg, Attica, Cayuga, Terre Haute and Brazil are named in the group. Danville, Galesburg, Springfield and Decatur, Ill., will come under the same ruling as the Indiana cities.

* * *

Must Line Chimneys With Terra Cotta

It is a little story in a few words, but it shows the favor of burned clay products for fireproofing work. At Millville, N. J., the City Commission has ordered the drafting of an ordinance requiring that all chimneys constructed hereafter shall be lined with terra cotta. This action is due to the number of calls made recently on the local fire department to handle chimney fires.

* * *

Point to Shortened Lending Power

The Federal Reserve Board has issued a review of general business and financial conditions thruout the several Federal Reserve Districts during the month of January, in which it says: "Reporting heavier trade demands and in many cases greater 'prosperity' than ever before in the history of their districts, Federal Reserve agents nevertheless point to shortened lending power, less easy credit and dangers of various kinds growing out of extravagance, excessive prices and overtrading. Labor conditions have been on the whole encouraging and the demand for products strong and active."

* * *

Will Erect 200 Workingmen's Homes

The movement among industrial companies for the erection of homes for employes is winning many converts in the Pittsburgh, Pa. district. The McKeesport Tin Plate Co. which has extensive work about 12 miles above Pittsburgh, announced in mid-February that it has bought up considerable acreage in McKeesport and will erect at once about 200 modern workingmen's homes, to be sold to its employes or rented on terms agreeable to the workers. The material probably will be brick.

* * *

Kenilworth Plant Expanding—Will Install Latest Types of Machinery and Equipment

The Kenilworth (W. Va.) Brick Co. will break ground shortly for another brick manufacturing plant, which will cost approximately \$100,000 according to Fred G. Porter, general manager. The proposed No. 2 works of the Kenilworth company, will be erected just east of the old site, and will have a capacity of 1,000,000 brick monthly. The new plant will be equipped with a tunnel kiln and the latest type of clay mixing machinery has been ordered.

The main part of the new addition which will house the machinery, will be of brick construction, measuring 40x50 feet, two stories high. The entire output will be dry-pressed brick. Two four-mold brick machines have been ordered for this work.

The Kenilworth company will continue to operate its old

plant in the manufacture of wire-cut brick. The old plant has a capacity of 2,000,000 brick per month when working to full capacity and 19 kilns are operated.

Work on the new plant will be started as soon as weather permits. The company will take care of part of the construction work and supply the brick and material wherever possible, altho the kiln and other parts of the work will be left to the lowest bidder. It has been planned to have the new plant in operation by July 1.

The present plant employs approximately 75 men. After the new addition, this force will be considerably increased.

* * *

Will Save One Hour of Daylight Per Day

The Gettysburg (Pa.) Brick Co. is arranging to place a daylight saving schedule in effect at its plant, commencing early in May. It is proposed to have the men report for duty an hour earlier in the morning, leaving the yard an hour earlier in the evening. There will be no change of clock time. Because of the lack of coal, the plant has been forced to curtail operations for some weeks past. This community has quite a considerable housing problem on its hands due to the coming of new industries to this section, and the brick company anticipates a heavy call for material for local operations with the coming of the spring building season.

* * *

Fire Clay in the Philippines

Deposits of good fire clay in the Philippine Islands, suitable for the manufacture of furnace brick are known. During the fiscal year of 1913, 1,556,000 brick were imported, the market value of which was about 55,000 pesos. The greater part of this importation consisted of fire brick. The consumption will increase with the material growth of the country.

CLAY PRODUCTS IN THE PHILIPPINES

Clay and shale suitable for use in the manufacture of clay products, such as building and paving brick, tile and common pottery, occur in such abundance and so generally distributed in the Philippines that they are available in practically every part of the Archipelago. No vitrified products are manufactured there. Owing to the great expense of importing vitrified pipe, tile, and brick, the consumption of these is small. However, vitrified brick for paving both country and city roads, vitrified pipe for drainage, and tile for floors and roofs are certain to be used in large quantities when they can be obtained at reasonable prices. In addition there is an unusually large number of deposits of kaolinitic clay which can be used as a filler in the manufacture of pipe and from which white stoneware could be manufactured; there are, also, several deposits of pure white burning kaolin. Feldspar and silica are available for blending with this clay in the manufacture of porcelain. Hydrous aluminum silicate occurs, the texture of which is similar to the amorphous colloidal clay known as fuller's earth and used for bleaching and for clarifying and filtering fats, oils, and greases. While the clay resources are practically untouched, the value of locally manufactured products amounts to 450,000 pesos per annum. Common clay is used for crude pottery, brick, and tile; white clays are used in minor quantities for pottery and in the manufacture of cold-water paint.—*Industrial Resource of the Philippine Islands.*

* * *

The Central Refractories Co. has removed their general offices from Newark, Ohio, to New Lexington, Ohio.

APPLICATION *the* SECRET *of* GAS-FIRED CONTINUOUS KILN SUCCESS

Telling How Phenomenal Results Have Been Obtained in Burning Common Brick With the Following Returns: 400 Pounds of Coal Per M Brick, 100 Per Cent. Salable Ware, and Ease of Operation

By George Cutbush

Head Burner, Don Valley Brick Works Ltd., Todmorden, Ont. Read at the Canadian National Clay Products Association Convention, January 20, 1920

IF WE ARE TO BE SUCCESSFUL in burning clay products in any kind of kiln, there are some things that are essential.

1st. The operator must have at least a general knowledge of the clay to be burned. This is very important, as without this knowledge disaster may follow.

2nd. The mix must be constant or uniform, for, as is well known, clays containing a high percentage of iron will act differently from clays that are low in iron and high in lime. The margin between vitrification and fusion in some clays is so slight that unless the mix is constant there is likely to be trouble at the kiln.

3rd. It is also essential that the operator learn the strong and the weak points of the system he is handling. Kilns, like the gender by which they are sometimes called, give their best results when coaxed. It is never wise to drive any system until it is thoroly understood.

SUCCESS IS MAINLY "STICK-TO-IT-NESS"

Given these things, and a fair share of common sense, good judgment, and quick decision, success will follow. But after all has been said, success is nine-tenths drudgery and one-tenth genius.

It is not my intention to go into any lengthy or technical detail, but to give a short, practical outline of the method of burning brick in the gas-fired continuous kiln.

We are all acquainted with the various processes of burning clay products, and we have at least a working knowledge of the chemical changes which take place during the process of burning.

The producer-gas-fired continuous kiln has come to stay. It has so many advantages over the coal-fired continuous kiln that brick manufacturers should think twice before making their installation.

The most essential things in any system from the manufacturer's point of view are economy and efficiency. These principles apply not only to the operation of a system or kiln but to the building of the same. The cheapest construction is not always the most economical. The upkeep or repairs necessary to keep a system running must be taken into account, and when we take these things into consideration, the gas kiln compares favorably with other kilns, as, if it is properly constructed, the repair bill will be very light.

ADVANTAGES OF PRODUCER-GAS-FIRED KILNS

Let us look at some of the advantages of the producer-gas-fired kiln.



Taken From the Northeast Section of the Don Valley Brick Yard, Looking Southwest.

- 1st. It is easy to operate.
 - 2nd. It gives uniform results.
 - 3rd. It is at all times under the control of the burner.
 - 4th. There is less waste than with any other continuous kiln.
 - 5th. The goods are free from ash and dirt, so common in other systems.
 - 6th. It is economical in the amount of fuel used per M.
 - 7th. The conditions under which the setting and unloading of the goods are performed are ideal.
- I am not a sales agent for gas kilns, or I might enlarge upon its advantages.

DISCUSSION OF GAS-KILN'S MERITS

We may now take up some of the points already mentioned and discuss them.

1st. The gas-kiln is easy to operate. Before getting the producers to work, it is necessary to start fires in the kiln, for which provision can be made by putting in furnaces which discharge into one of the main flues. We now place conductors three or four chambers ahead of the firing chamber, thus linking the kiln to the main draft flue which is controlled by a suction fan. It will require about forty-eight hours to water-smoke, and raise the temperature in the first chamber sufficiently to burn the gas. With some clays it may take seventy-two hours or even longer. When the temperature of the kiln reaches 700 deg. Fahr. the producers may be started. I have found it a good practice to connect the producers to the kiln as soon as possible after starting them as the heat from the producers will dry up any moisture there may be in the gas flues, and will warm the flues, thus preventing a possible explosion when the first combustible gas passes thru them. It is possible to have gas burning in the kiln within one hour of starting the producers. The quantity of gas used can be regulated by dampers or valves placed at the kiln for that purpose, thus securing a gradual rise in temperature.

It is not possible to lay down any hard and fast rules as to what the rise in temperature should be per hour. That can only be decided upon by experimenting with the clay to be burned. 25 deg. Fahr., is sufficient for some, while other

clays may be given a rise of 50 deg. Fahr. per hour with safety. It is not a good practice to raise the temperature at the top of the kiln much faster than it can be drawn to the bottom, for if the clay contains a high percentage of fixed carbon and the temperature is increased too fast the surface of the brick will become vitrified, and this will imprison the carbon, which in time will form a gas, that, in its effort to escape, finding its passage thru the pores of the brick blocked, will swell or bloat the brick, producing what is commonly known as "black core." This condition may occur in any kiln and can be prevented by admitting abundance of air during the oxidizing period.

KILN PRODUCES HIGH PER CENT. GOOD WARE

2nd. It will be seen that the gas kiln is at all times under the control of the operator. With fan draft, and gas valves close at hand, there is no difficulty in regulating the supply of oxygen or gas.

3rd. We stated a short time ago that there is less waste with the gas kiln than with any other continuous kiln. Since looking for data for this paper, I have taken particular notice of kiln waste. In the first four chambers we examined, containing about 300,000 brick, by actual count we had only three brick that were not salable. In the next four chambers, containing about the same number of brick we could not find any spoiled brick—a record, I think, which no other continuous kiln can show.

4th. Economy in fuel consumption is another point in favor of the producer-gas-fired kiln. This is mainly accomplished by using the heat that radiates from the chamber under fire to preheat the chambers ahead. The chamber immediately preceding the firing chamber will usually record 1200 deg. to 1300 deg. Fahr. It will readily be seen that two-thirds of the burning has been done by radiated heat, and after the gas has been turned into a chamber, with many clays it only requires twenty-four hours to finish the burning. I do not believe in setting the stage in order to boast of time records; I prefer to take a round of the kiln. The kiln at the Don Valley plant has twenty chambers, each holding about 75,000 brick of about six pounds weight each. We regularly burn the twenty chambers in thirty days. This



View of Part of Clay Hole of the Don Valley Brick Works, Toronto.

time includes all stops, such as burning soot out of flues, making repairs on engine or fan, etc. This gives us an average for every working day of nearly 70,000 brick, or 50,000 for every day in the week.

FUEL CONSUMPTION VERY LOW

The amount of fuel used per M. is low in comparison with some kilns. Here again I have taken a number of rounds of the kiln in order to get a fair average. Our average for five rounds of the kiln, or 7½ millions of brick has been, this season 400 lbs. of coal per M., the lowest being 385 lbs., and the highest 410 lbs. This includes the coal necessary to produce steam for the gas producers, and power for running the fan, for which we must allow 50 lbs., per M., thus leaving 350 lbs., per M., for the actual process of burning, which, I think you will admit, is a low average, especially when you take into account the almost entire absence of waste.

There is still another advantage to the credit of the gas-fired kiln. The goods come from the kiln absolutely clean, no ash or dirt from the firing ever reaches the kiln, thus making the conditions for setting and emptying ideal.

PRODUCERS ARE NOT HARD TO HANDLE

Perhaps a word here about the producers would not be out of place. Altho a formidable looking apparatus, they are not difficult to handle. The producer in general use on the gas kiln is a hand-stoked, water-sealed producer. Air is forced into it by means of a steam jet-blower. The amount of air admitted will depend upon the condition of the producer, the class of fuel used, and the amount of gas needed at the kiln. This is all easy to regulate, and there is no difficulty likely to arise at the producer which cannot speedily be overcome. The burner must watch for holes, or thin places around the edge of the producer. These allow the air admitted to pass thru unchanged, simply deteriorating the gas, and unduly heating the producer.

With proper care the producer can be kept running at very low repair costs. We have used four for seven consecutive seasons and have not had to replace a single fire brick. By chipping off the clinkers when the fires are out, and filling the cracks with fire clay the producers will give as good service at as little cost in upkeep as any furnace.

Gentlemen, I hope I have succeeded in convincing you that the gas kiln is all, and more, than I claimed for it in my opening remarks, and given a burner with a conscience, who is in love with his job, success of a high order will follow.

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Cincinnati "Build Your Own Home" Campaign Begins March 6

A boom in the building of residence structures in and about Cincinnati, unprecedented in its magnitude, is expected to result from a "Build Your Own Home" campaign, which will be conducted at Music Hall from March 6 to 13 inclusive.

Special arrangements for an adequate display of all brick and other clay products necessary in the building of a house have been made by the Brick Club of the Cincinnati Chamber of Commerce, under the leadership of Mr. Pursell, of the Pursell Brick Co., as chairman of the exposition committee.

The combined members of the Club have gone into the campaign unitedly and have leased 200 square feet of space in which to mount the display of all the many kinds of brick and the different methods employed in laying it.

Architects have been retained to sketch the plans for the exhibit, which is to be made both entertaining and instructive.

The campaign is expected to affect building in this district as far north as Dayton, Ohio, and as far south as Lexington, Ky., and an equal distance east and west. It is said to be one of the largest movements in the building industry ever undertaken in this city.

Mr. Pursell intimated in a recent interview that brick manufacturers in this district, while they will be unable to supply the demand for brick, will be ahead, by a considerable amount, of the railroad cars necessary to deliver their product. According to him the car shortage in and about Cincinnati is becoming a serious matter for the brick manufacturer.

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Has Interesting Program in Store

The first annual meeting of the National Federation of Construction Industries will be held on March 24 and 25, at the Hotel Sherman, Chicago, Ill. It promises to be of extraordinary interest and fundamental concern to everyone engaged in construction. Invitations to be present are extended to every national, regional and local association, and to all producers, manufacturers and distributors of construction materials, machinery and supplies, contractors, architects, engineers and financial interests connected with construction.

Among the subjects to be discussed by the best known national and international authorities are: Freight Traffic as affecting the construction industry, freight rates, economical packing and handling in the shipment of construction materials; Standardization in the Construction Industry; Foreign Trade; Financial Relations; Jurisdictional Awards; Housing, and Americanization.

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Cooperation vs. Competition Discussed at Tile and Mantel Dealers Meeting in Cleveland

Evidence of the supplanting of wood by tile for mantel construction was demonstrated in connection with the annual convention of the Tile and Mantel Contractors' Association, held at Hotel Statler, Cleveland, Ohio, the week of February 16. About 300 delegates attended. The exhibit that illustrated the advance of tile for this purpose was that of the associated factories. Principal discussion was for greater cooperation among manufacturers, dealers, contractors and architects, as against competition which, according to F. W. Walker, secretary, the Associated Tile Manufacturers, can be extended until it actually becomes a detriment to the trade. One of the features of the meeting was a motion picture lecture by Mr. Walker, in which the development of materials and the tile business and the uses of tile were shown.

Officers of the association for the coming year were named. They are: President, E. B. Butler, Milwaukee; secretary-treasurer, Thomas J. Foye, Cincinnati. The president will name other officers later. Philadelphia won the next convention over New Orleans and Los Angeles.

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Pottery workers at Sebring, Ohio, have established a co-operative store, to handle a broad line of necessities. The enterprise is said to be highly successful.

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The Alberhill Coal & Clay Co. has removed its offices from 706-7 Equitable Savings Bank Bldg., to 604-605 Pacific Electric Building, Los Angeles, Cal.

JOHN CHINAMAN *has* MANY FRIENDS *in* CLAY INDUSTRY

"You May Enter Our Application for at Least Fifty Chinamen to Go to Work as Soon as Possible" — "Anyone Who Will Work to Earn Their Money Suits Me" — "We Could Take Care of Ten or Fifteen Men of This Class of Labor, If Not More" — These Are a Few of the Expressions of Opinion — Others Are Absolutely Opposed — Read the Result of Interesting Poll Made by "Brick and Clay Record" On the Asiatic Labor Importation Suggestion!

WE HAD NO IDEA that the proposal to permit a limited number of Chinese or other Asiatic laborers as well as those from our insular possession and Mexico, to enter the United States, under proper supervision, would strike so much fire. The plan which was discussed in the January 27 issue of *Brick and Clay Record*, on pages 220 and 221, seems to have been widely read and seriously considered. Those who have written us regarding the idea have said so many worth while things both *for* and *against* the proposition, that we are producing below all of the letters which we have received at the present writing. They will bear careful reading.

HEARTILY ENDORSES MOVEMENT!

"We wish to congratulate you on your editorial 'The Chinaman on the Clay Plant' in the issue of January 27, as we heartily endorse any movement towards that end. The thrift and industry of that race of people would undoubtedly have its influence on H. C. L., which correctly interpreted means, High Cost of Labor."

ABSOLUTELY OPPOSED TO ASIATIC LABOR

"We note the editorial regarding the importation of Asiatic labor. We are absolutely opposed to the bringing in of labor of any other than the white race, as we believe that eventually we would be troubled with the yellow question which would cause just as much trouble as the negro question has already caused in this country."

CHINESE NOT TROUBLE MAKERS

"We congratulate you upon your article on the Chinese labor question. We believe that this would solve the problem for there is no question but what the Chinese are used to heavy work and are not trouble-makers."

EDITORIAL COVERS SITUATION FULLY

"We have the editorial regarding the 'Chinaman on the Clay Plant' which appears to cover the situation fully. It seems to us that if we are to become one of the League of Nations that we could not attempt to shut out any immigrant from other countries merely for the reason that a cheapening of labor, lowering of costs of production, and lowering

of costs of living might be opposed by some organization interested in maintaining high labor costs due to its shortage."

IOWA MANUFACTURER BELIEVES WE SHOULD PROFIT BY EXPERIENCE

"We are absolutely opposed to the importation of Chinese laborers. The Pacific Coast states are fully justified in their anti-oriental attitude—we should profit by their experience."

WOULD JUMP AT CHANCE TO HIRE CHINESE

"We believe that this is a new idea to the average brick-maker. So far as we are personally concerned, we can see no objection to the plan. One thing is sure, something will have to be done to bring the laboring element of the country to a realization that no employer can pay the prevailing rate of wages, without an effort on their part to give at least the old time service. It is next to impossible to get a half day's work out of labor at the present time. And if something like a flood of Chinese, or any other class of labor, would give the employer a reasonable day's work for the wages paid, we believe that it would go a long ways towards reducing the present high cost of everything."

"The writer has made millions of brick and sold them from \$4.50 to \$6.50 per M, f. o. b. cars at plant. Today we are getting from \$18 to \$22 for the same class of material and not getting as big returns on the investment as formerly. The percentage of increase in labor and fuel is nothing like the increase in price but the additional cost arises from the fact that labor will not do anywhere near half what was willingly done in years past."

"It surely is a problem, and the solution is beyond me, but will say *could we have the opportunity to employ a bunch of Chinese or any other foreigners*, who would give a fair day's work for a fair day's pay, *we should jump at the chance.*"

"At the present time, there is plenty of un-employed labor in this vicinity—*such as it is*. But with the advent of spring and good weather conditions and the starting up of building operations which look extremely encouraging at this writing, there is bound to be a shortage of labor. While at this time common labor is getting 40c per hour, it looks as tho it would go to 50c per hour. Fuel has been advanced 35c a

ton in our market, since the settlement of the coal strike, to cover the 14 per cent. advance to the miners, so that, from the present outlook it is hard to say where the price of brick is going to, as it will be impossible to hold the price at the present levels with production costs increasing as they are. These advancing costs of building material are not encouraging to the prospective builders, in spite of the fact that our city is experiencing a tremendous building boom, owing to the location here of several large manufacturing concerns, which will employ help enough to nearly double the population of the town. Local companies are making strenuous efforts in the house building line, to provide some place to house the new workers that must come to the city to operate these new industries.

"It looks to be a problem hard to answer. How much higher can building material go, and not cripple building operations?"

"If the importation of Chinese labor, under proper emigrant restrictions, will solve, or help to solve, these problems—let's get them and get them quickly."

SERIOUSLY DOUBTS ADVISABILITY OF PLAN

"We seriously doubt the advisability of undertaking to use the Chinese Labor in any of the industries, under present conditions."

FAVORABLY INCLINED AFTER CONSIDERATION

"After reading the 'Chinaman on the Clay Plant' over very carefully and weighing the labor situation in my mind as best I could, I have come to the conclusion that your point is well taken in regard to Chinese labor.

"We will surely welcome any kind of labor that would relieve the present situation and believe that the solution to this is given in your editorial.

"We are only operating a small plant at the present time, but before the year is out we expect to be in need of close to 200 men to operate our new plant. On this account, you can readily see we are very much interested in anything that will tend to lighten the labor situation."

ENTERS ORDER FOR FIFTY CHINAMEN AT ONCE

"Your editorial in *Brick and Clay Record* of January 27, on the question of the Chinaman on the brick yard appealed to the writer very much.

"The writer has worked Chinamen on brick yards and other places in the West, and believes that what he says following is absolutely true, based on experience.

"The Chinaman has an enormous capacity of patience, and when it comes to a monotonous job cannot be beaten. He is "STICK-TO-IT-IVENESS" personified, and does not become a grumbler nor a shirker. Perhaps he is not the fastest worker in the world, but for reliability, cannot be excelled.

"Without going into the question of the prejudices which are held against John Chinaman in the West, (and we honestly believe that if they were to contend with their garlic-eating cousins from Southern Italy, and the Bolsheviki from Russia, they would honestly come to the conclusion themselves that it was prejudice), we can see no reason why this great reservoir of rough and willing workers should be closed to the labor-hungry industries of the United States. It is undoubtedly a fact that the foreign labor which we can expect from Europe during the next decade will be but a drop in the bucket, and as to the American-born laborer, which does not aspire to a white shirt job, the balance will not condescend to work on a clay plant any longer, preferring to work five or six hours a day for his Uncle Samuel on the SECTION, riding up and down on a self-propelled gaso-

line car, at wages which enable him to even become the sole support of a FORD CAR.

"As manufacturers operating a number of plants, this labor question is coming to be the greatest obstacle with which we have to contend, and in our section we are not alone in this woeful shortage of labor. Even the farmers here are compelled to cut down the number of acres put in crops, which entail any labor, to the irreducible minimum owing to the inability of their wives to make full-fledged field hands, and this undoubtedly is going to have its effect on the amount of foodstuff which is produced, in our part of the country at least, and to the writer is more serious than the League of Nations, the Peace Treaty, or any other economic problem which occupies the professional politician, or paid editorial writer.

"You are undoubtedly on the right track, and are attacking the greatest problem which we are facing, along the right lines, and we honestly believe that the so-called flood of Asiatic labor, which has been held as a bugaboo for so many years, is a myth, for we feel certain that John Chinaman would never become a Bolsheviki, an I. W. W., nor an anarchist, and if by his admission to this country he would have a tendency to lower the scale of labor wages, more power to him and to you, as nothing will bring things to a sane and normal basis but resumption of normal production at a normal cost, and the labor cost in the majority of articles predominates.

"The writer feels very strongly on this subject of the Chinaman and has for years, and while in all probability your fighting his cause will bring a certain amount of censure down on your head, you are undoubtedly doing a great work and you may depend upon us to help you in any and all ways to further the cause in any way we possibly can.

"To show our good faith in the matter you may enter our application for at least fifty Chinamen to go to work as soon as possible."

A BIG QUESTION, SAYS THIS CLAYWORKER

"Chinese labor is a big question. Might be all right in the cities, but don't believe they could be worked in smaller communities."

ENOUGH LOAFERS AROUND TOWN TO MAN ANOTHER PLANT

"We have all watched the alien labor leaving our country for other parts, and have given the labor question quite a little thought, but it is my honest opinion that in this country, with what foreign labor will come in, we have man power enough to take care of all our industries if the Government will provide some way to make producers of all the non-producers (who abound in every community) as they did during the war period. With the soldiers all in civilian pursuits again it looks easy to solve the question.

"In our community I can find most any day at this season of the year, since the war, enough men and young men about town idle to man another plant like the one we operate. The majority of these fellows are little better than 'hoboes' except that they have relatives who feed them and thus keep them from begging. Labor was scarce during the war, but there were a great many who did not work who should have been made to work or fight.

"Most all the states in the Union have vagrancy laws but to get this non-producing element at work it will take federal action and with these men all at work it would go a long way towards solving the labor problem."

WILL BEAR CLOSER INVESTIGATION

"The writer had noticed the editorial entitled 'The Chinaman on the Clay Plant.' We are inclined to think that this

idea will bear closer investigation and may offer some solution of our labor supply. We would suggest immigration under certain restrictions of land ownership, or males only, or possibly both points could be incorporated."

IF HE CAN'T GET HELP, HE'LL GO FISHING

"We should not lose sight of the important fact that we are experiencing an unprecedented wave of business activity of which there exists no logical economic justification. The situation is largely psychological. Under normal conditions preceding the war, this labor shortage did not exist. The relatively few who were lost thru this war, from this country, is wholly inadequate to account for the present phenomenal labor shortage.

"This abnormal frenzied wave of activity will run its course in a year or two when there will again be a plethora of labor, and the situation swing to the other extreme. Under such normal conditions, large blocks of Chinese in the body politic would be a gravely disturbing element to American society which cannot under present sociological conditions absorb them as most other nationalities are being absorbed. Personally, I am highly cosmopolitan, and easily fall in line with your logic of supplying a want with the most expeditious supply. But society is mighty shy on logic and decidedly long on the 'call' of primitive savagery manifesting itself in one direction by peacock vanity, superstition and sentimentality.

"This is a large subject, that nothing but the slow workings of evolution can bring to a determination. I am operating a small brick and tile plant, supplying the wants of a farm community. The outlook for help at the present moment is pretty slim, if I cannot get it, why 'glory to peggy' I'll go fishing or somethin'."

SUGGESTS EACH STATE DECIDE FOR ITSELF

"As to the merit of the idea expressed in your editorial on Asiatic labor, we would say that in the main we agree with you. We have not been long at the actual shipping of our clay, but we have had our troubles with the labor question.

"Recently the writer addressed the alumni convention of the engineers of Brown University, and referred to the all-important subject of our labor situation, advising in view of our experience in dealing with irresponsible labor upon leaders that our efforts as engineers should be to seek every means possible to overcome the unstable equilibrium of the demand and supply of laborers by the use of labor-saving machinery. In our case we propose to install a steam cable power scraper to strip our overburden and excavate our plastic kaolin, and to use back dumping auto trucks to load the cars. In this way we will do away with most of our common laborers, and keep the number of skilled men down to a minimum.

"Even then, the Government's spineless example of constantly increasing wages confronts us as an incentive for our men to demand more pay."

"We have reached the parting of the roads in our country, and the sign boards designate one road to sane and conservative living, and the other to irrational and radical living.

"What we need now are practical men as our representatives, patriots, not politicians, men that are not to be intimidated with the fear of the votes of organized but unincorporated unions; men such as Euripides referred to when he wrote centuries ago:

In every country are marked three classes.
To the public good, the rich are listless,
All their thoughts to more aspiring;
They who struggle with their wants,
Short of the needs of life,
Are clamorous, rude, to envy much addicted,

At the rich aiming their bitter shafts,
And led astray by the false glosses of their wily leaders.
Betwixt these extremes there are who save the State,
Guardians of the order and their country's laws."

"Such men will meet the demand for labor occasioned by the loss of the millions of laborers who have left and are leaving this country to return to their native lands.

"Notwithstanding the opposition of the western states, a law should be enacted giving the right to each state that may so elect, to import and use Asiatic laborers, at least, those coming from our own possessions, until labor is stabilized, and production can be brought up to a point that will lower the costs of living."

DO NOT CONSIDER INVITING "YELLOW PERIL"

"I am American born. I am American thru and thru, first, last and always. I think it is true some of the corporations in this great United States of ours should begin a little practice in Americanism which they have to my knowledge been very weak on. In 1898 in the war with Spain, 100,000 volunteers were called for and were gotten in a week. That was patriotism of the highest standard, and nearly every man was a working man.

"When the 100,000 volunteers went into the army the large corporations were responsible for the importation of 500,000 foreign born people getting into the United States, consequently, there was an over-supply of laboring men, and during the winter months there were many out of employment and in the breadline in cities of any size for a number of years after the close of the war.

"Let America be America now and always. Let's not give our doughboys of the late world war a reception of 1,000,000 Chinamen as laborers in this country, driving them to the bread line. I beg and pray leave those people where they belong and refrain from being so narrow-minded as to even consider inviting on the yellow peril. It will come soon enough.

"There is plenty of laboring people here to keep this country going. Let the corporations and employers of men get down and put their shoulder against the wheel and 'clip' the wings of the 'merchant's association' off real short, so that every time the employer gives the employe a raise in wages, it won't be taken from him by the merchants. With that corrected, harmony between employer and employe will remove the cause of strikes, increase production and make the American feel as tho there is something in the world for him and a mission here on earth. They will have homes to be proud of and work better than ever."

HESITATES AT ADDING TO TROUBLE

"As to Chinamen on the clay plant, the matter of opening the doors of this country to foreign immigration is a serious one. We are short of labor and what we have is independent, unthinking and irregular, but to add to this a lot of undigested, and for all we know, sovietly inclined foreigners, might be worse."

CHINAMAN MORE SANITARY AND CLEAN

"The 'Chinaman on the Clay Plant' is interesting, and I have often felt that it was an injustice to the chinaman to exclude him from the United States on account of his ability to labor at a lower wage than other labor which is perhaps far less skillful or desirable than the Oriental. The Chinaman in his own country can live more cheaply because he produces more cheaply and from my observation the Chinaman in this country often lives in more sanitary conditions than the immigrants from many of the European countries, whom we welcome to our shores without reservation.

"It does not appear that labor requires the protection that

it had when labor was abundant. It now appears that the employer and the employe should be more on a common level as to the protection of law and custom. Labor has suffered a great deal for its own short-sightedness and when labor realizes it, we will all be better off, and labor will not be the least favorably effected.

"There is no question that the Chinaman could not live nearly so cheaply as in his own country, and his competition in the labor market would not be nearly as keen as one might at first suppose when the cost of food and other necessities of life in this country are considered. It does not seem that the Chinaman is disposed to foment labor troubles as much as many of the immigrants from Central and Eastern Europe, and in that regard he would undoubtedly be a very desirable asset.

"The greatest objection to the Chinaman in this country undoubtedly is prompted by the defensive attitude of American labor from their desire to control the labor market and eliminate the possibility of competition. I am in favor of the importation of Chinese labor with certain restrictions as to numbers, with the demands of the labor market as a basis of regulation."

IMPORTATION OF ORIENTALS WOULD AGGRAVATE STRIFE

"In regard to Chinese labor, we do not see where it would benefit common labor. Financially, it would benefit us manufacturers but it would not benefit the laboring class of people who have made this country what it is. It seems to us that if we use these Oriental laborers that we only rush on the labor and capital war which is coming on fast enough.

"We do not want foreign labor of any kind if we can help it. What we want is to 'kill' the middle men and cut the high cost of living to the consumer by getting rid of these drones."

THE ONE IMPORTANT THING TO PUSH!

"We have long believed that the admission of Chinese labor to this country is not only essential to any progress in increased production, but would be a good thing for labor. Production is the main essential in the maximum of prosperity at this time or during prevailing conditions and we believe that increased production would not only tend to lower the cost of living, but would also profit the producer to a greater extent than the higher price possibilities under curtailed production. It would benefit labor because it would reduce the price level of general commodities and remove uncertainties due to uneasiness and a tendency to strike and a loss of time on the part of the laborers.

"We have recently talked to Californians and we believe, aside from laborers, it is the general verdict that Chinese laborers are of really a high class because they do what they agree to do. We have as a result of inquiries concluded that we have had an entirely wrong impression of the 'heathen Chinese' and that we have overlooked a 'good bet' in keeping them out. While we may not admire some of their habits, there is considerable of a question whether they are not in many respects superior to the ordinary run of people that come into the 'melting pot' without opposition. We are strongly in favor of admitting them and agree with you that their admission is the one important thing to push at this time.

SHORT TEN MILLION LABORERS

"I have worked Japs and they were the best men I ever had on a brickyard. They are faithful and reliable in every way. I would like to get some more. Any one who will work to earn their money suits me.

"Shortage of labor, both skilled and unskilled, causes high

prices of food, clothing and industries of every nature. More work and no agitators! Every one put their shoulders to the wheel! Have no use for obstructionists or strike advocates. *Let the union presidents, secretaries and walking delegates go to work instead of drawing large salaries and getting the rank and file of labor they pretend to represent, into trouble.*

"Admit any immigrant that wants to work. We are short 10,000,000 laboring men in the United States today, and if Sam Gompers and others like him could have their way, we would be short 20,000,000 in two years."

"WE DON'T WANT THEM"

"Permitting Chinamen to enter this country to relieve labor shortage in my judgment would be a great mistake. We are just going thru some very sad experiences, all due to the activities in the past of what is known as old countries pushing their undesirables across the waters to us, and we receiving them with open arms *because they worked cheap.* If we permit the Chinamen to come we will be in the same mess in a decade.

"You say the 'chinaman is a pacifist.' Well, look at the Boxer uprising and the revolutions that these 'peaceful' (?) Chinese are constantly pulling off at home. Can you expect anything better of such, when sufficient numbers are in one community and a bad leader comes along and agitates? Ask California what it thinks about Asiatic labor.

"We don't want them, and if they are forced on use we expect to make a big kick."

COULD USE 15 OR 20 CHINESE NOW

"We are heartily in accord with any possible relief for the labor situation at the present time. We could take care of ten or fifteen men of this class of labor (Chinese) and probably most of our other plants could handle at least as many, if not more.

"We are free to admit that these are the last race we wish to employ at any of our plants, but conditions may continue to grow worse to such an extent that we may be glad indeed to get even this class. There is no question but what they are hard workers and within a reasonable length of time could learn to do a certain class of the necessary work."

MUST DO SOMETHING IN SELF-DEFENSE

"I am in hearty accord with your editorial, we have reached the stage where we must do something in self defense. I am daily up against this labor problem and it is enough to try the souls of men. We have a wonderful market, good prices, getting a fair supply of coal and empty cars for loading, but find our cost daily mounting for want of sufficient labor to operate. We simply cannot get out production and what labor we do get is very inefficient.

"Now, in conclusion, let me say, let us not ask questions about what kind of labor we shall get, but get it. Any old kind and in any old way, I have long believed that the real source of most of our business troubles of today are due to our restrictions of immigration, this I do not favor, and I say 'take the lid off' and let them come in."

IS WILLING TO COOPERATE TO GET RELIEF

"There is no question but that something definite must be done soon regarding the labor question on brick plants as well as every other line of industry. We are constantly short of labor and it seems that with the present excessive demand for labor, most of our regular labor has been able to secure work at various trades and will not perform the so-called hard labor.

"Therefore, something must be done to provide men who will perform the ordinary rough labor in general, and since

we have no men who will perform this labor, it appears that the only thing to do is to bring in those who are willing to do these tasks. We have often considered this question and we feel sure it would be a good plan to bring in the Chinaman as suggested and we will be willing to cooperate with you on this."

TAKES TWO MEN TO DO ONE MAN'S WORK

"We not only read the editorial entitled 'The Chinaman on the Clay Plant' but also read your reprint, and there is no doubt in the mind of any manufacturer today, but what something will have to be done to supply the sufficient amount of labor required to increase production.

"In our own plant today, it takes just two men to turn out the same amount of production as one man turned out in the pre-war period. Wages with us have increased over 100 per cent., this means additional cost to the ultimate consumer, and we believe has been the case in all lines to add to the high cost of living, which we hear so much about.

"We feel that politics and labor, *chiefly politics*, have been the cause of the numerous labor troubles that have been in existence for the past few years, and it has always been our contention, especially in war times, when we ourselves were at war, that, if a man could be drafted for war purposes, he could also be drafted for doing war work.

"With regard to the Asiatic labor, while we feel that this is bound to come, the question of housing is naturally going to create some adverse sentiment, however, to come right out frankly, would state, that if we had at the present time Chinese labor, we would use it."

SPEAKS FROM EXPERIENCE

"About sixteen years ago I had the opportunity of employing Chinese labor in Oregon, as well as Japanese, and I found the Chinese far superior to any Asiatic I ever had working for me. They are steady workers, industrious and above all, they mind their own business and never try to attempt to run the boss's affairs. *They are first to go to work and last to quit.*

"I have had this experience with them. If they like you, they tell you so at the end of their week and that they will stay with you. If they don't like you, they will also tell you so, *but before they quit they will get you another one in their place.*

"Our main trouble today is with the labor class. They all want equal pay, altho fifty per cent. cannot come across with equal work.

"When I have charge of a gang of men, I make it a rule to pay the man according to what he can do. For instance, I had two brick setters, one I paid \$5 per day, the other \$3.50, so one day the \$3.50 setter wanted \$5 a day. I said all right you shall have it from this day on, *if you set as many brick a day as the other setter does.* He never got his raise because he never set as many brick, always from five to seven thousand short. Now, was he entitled to a raise? I say *no*. If this rule was followed out by the employers and unions, there never would be any strikes or lack of harmony.

"Altho born in Germany, *I am for America first, last and all the time.* I never will employ a man that refuses to become a citizen of this country, or will not learn our language and live up to our laws and constitution, therefore, as far as myself is concerned, I am opposed to importing Chinese or any other labor that could or would not live up to the rule of Americanism."



The American Bisque Co., Williamstown, Ohio, has broken ground for the erection of a one-story pottery addition at its plant, 40x120 ft., to cost about \$15,000.

Says Building Material Prices Will Not Be Lower This Year, Possibility of Going Higher

Analysis of the building materials situation in the Cleveland, Ohio, district has been submitted to the Cleveland Real Estate Board by E. A. Roberts, secretary the Cleveland Builders' Exchange. The information has been desired by real estate interests, that they may shape their plans definitely for the coming spring campaign.

After a thoro investigation of the conditions both in the Cleveland district and elsewhere, Mr. Roberts comes out flatly with the assertion that material prices will not be lower during the remainder of this year, if indeed they do not actually go higher.

Mr. Roberts, looked upon as an expert in the building supply field, has obtained statistics that show a 90 per cent. increase in labor costs over the figures of 1913. These figures show that Detroit's housing shortage is about 30,000 dwellings, that of Cleveland about 20,000. Mr. Roberts asserts building materials prices have not advanced as much as other commodities, the average increase in the former being 115 per cent., while other items have gone up 123 per cent.

Chief advantage to building during 1920 in his opinion is that there is hardly any possibility of strikes, as disputes between labor and the Building Trades Employers' Association must be submitted to arbitration. It is admitted by Mr. Roberts that banking and other financial interests are prone to curtail credits and loans, but that this is due to the disposition of the people as a whole to spend money for luxuries, rather than to place it where it is more available for necessary activities, such as building construction.



"The Story of Brick"

After many long years of waiting the general public has finally to learn that which it has long wanted information on—the story of brick. There is no need to dwell on the point that the public has had a dire need for some book or pamphlet that would tell of the permanence, beauty and economy of the face brick house. Credit is due to the American Face Brick Association, 110 S. Dearborn St., Chicago, for the preparation and distribution of an attractive fifty-six page booklet, profusely illustrated, which describes the attributes of brick.

The first pages are devoted to the story of brick in history and the manufacturing process. The subject of home building is covered very completely. Among the topics discussed under this head are the financing of home building, the handling of mortgages, building and loan associations, and the value of sentiment. Still further in the book, under the main topic, "Why It Pays to Use Face Brick," are discussed, first, structural reasons; second, artistic reasons, and in this sub-head are covered the topics of brick bonds, patterns, as well as mortar joints; third, economic reasons, under which are fully taken up the matter of up-keep and depreciation, fire safety and insurance rates, comfort and health; fourth, sentimental reasons, which cannot be measured by dollars and cents.

What will no doubt be regarded by many people as the most important subject covered in the book, is that of comparative costs. A very clear, to the point, discussion on the various types of house construction is covered under this important head, and a table is given showing the percentage of difference in the cost of constructing a house of frame, brick veneer, stucco, brick on tile, and solid brick (8 inch wall). Using frame construction as the basis, the percentages for the year 1919 for the respective types of construction

named above, are: 4.6 per cent., 3.1 per cent., 6.2 per cent. and 6.4 per cent.

Other subjects covered are the need of saving lumber, and the extravagance of cheapness.

This booklet which was prepared under the direction of G. C. Mars, of the Department of Service of the American Face Brick Association, is being sent to those requesting it from the suggestion appearing in the copy of the advertising of the American Face Brick Association which has recently appeared in the "Pictorial Review," "American Magazine," "Leslie," and in other popular journals.

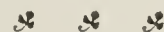
Dr. Mars has stated, "This booklet, of course, is for general distribution and is meant to tell the brick story to the prospective builder. We hope to have other manufacturers and dealers distribute it pretty widely. In the mean time, our February advertising is overwhelming us with requests, nearly two thousand coming in last week, and we hope that the distribution of this booklet among the persons who are interested enough to request it will create a great deal of interest in face brick building and produce a favorable impression."



Do You Know What "Ceramic" Means?

In discussing the meeting of the American Ceramic Society at Philadelphia, February 23-26, Edwin E. Hollenback, presi-

dent of the Master Builders' Exchange of that city says that no more than one person in ten knows what the word "ceramic" means, and that probably not one in a hundred appreciates all it implies in its modern practical bearings. But just consider—it includes every branch of industry concerned with the working into form and the burning into permanent shape of silicate rocks and non-metallic minerals. This ranges from sewer pipe, common brick and terra cotta to spark plugs and optical glass. It embraces the foundation stones of modern building. Not a person living in Philadelphia, or any other city, but is affected, in his costs, in his health, in every phase of work and living by the developments in the countless departments of modern ceramics.

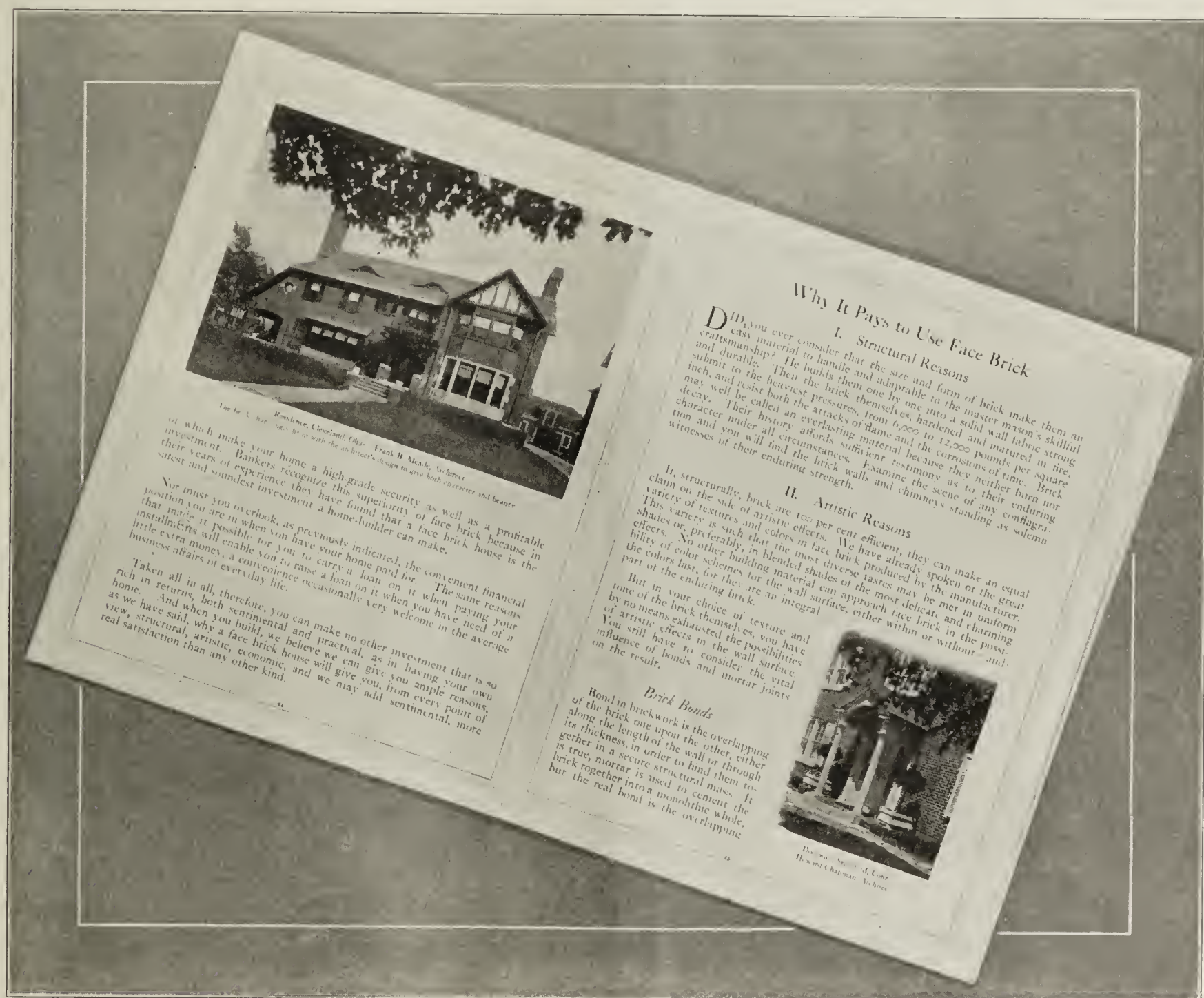


Anticipates Influx of 60,000 Americans

It is announced from Ottawa that Canada is expecting a material increase in immigration this year. Plans are now being laid in the department in charge of such work to take care of the anticipated influx of not less than 60,000 Americans.



The Superior Brick Co., Cleveland, Ohio, a Delaware corporation, has filed notice of change of name to the Pyramid Brick Co., to continue operations at the same location.



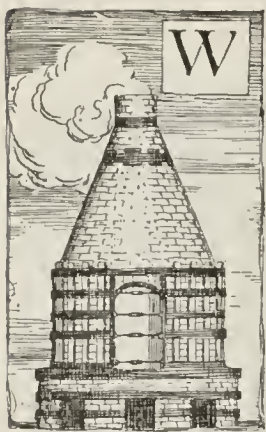
Two Pages From the Attractive Fifty-Six Page Booklet Entitled "The Story of Brick," Issued by the American Face Brick Association.

FINE CERAMIC MANUFACTURE



A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products Such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

MEXICANS OBTAIN BRILLIANT COLORS WITH NATURAL CLAYS



WITHOUT THE AID of any tool other than the hand, or fuel other than the dried chaff of the pasture or field, art pottery is being produced in Mexico today that is not only attracting the attention of collectors of pottery, but is rapidly finding its niche in the commercial field. And, it has been only during the last year or so that Mexican pottery workers have been capable of producing a ceramic commodity that would attract attention, either from the standpoint of the collector or commercial buyer.

To an American, T. A. McVicar, of Laredo, Texas, is charged the rapid development of the Mexican pottery in-

dustry, and it is due to his effort that much progress has been made during the last year. In aiding Mexican pottery workers to design and produce a better piece of ware has been no mean task, yet the crudeness very noticeable a year or so ago in this ware has been all but eliminated.

USE NATURAL COLORS

The production of Mexican pottery is very much a family affair. The pottery "plant" is the abode, or hut-like home of the Mexican pottery worker and his family. In fact, the entire family has some particular part to play in the making. No mold maker is employed, neither is an experienced kiln fireman engaged. While a glaze ware is ultimately produced, yet no dippers are employed. While decorated ware is finally marketed, colors are not obtained from the distributors of color manufactures. Nature, so it seems, has provided the Mexican pottery worker with all he or she requires to produce a piece of pottery ware.

Production of Mexican pottery is confined very largely to a part of the country about five hundred miles southwest of Mexico City, or in the State of Jalisco. This is on the west coast of Mexico, and the center of the industry is in and about Lago de Chapala. In this particular territory there are probably between five hundred and one thousand families working day by day, seemingly in sublime contentment, doing this or that part which will ultimately produce a water jug, vase, bowl, nappie or what not.

Once a week, and always on Sunday, the Mexican pottery worker brings the product of the last week into market, as he so styles it. This commercial center is Lago de Chapala.



The Production of Mexican Pottery Is Very Much of a Family Affair—In Fact, the Entire Family Has Some Particular Part to Play in the Making.

No dull market is ever experienced, as a ready demand has been created for the entire supply. As soon as the pottery

ber of the family is performing this task, another is molding the piece of ware.



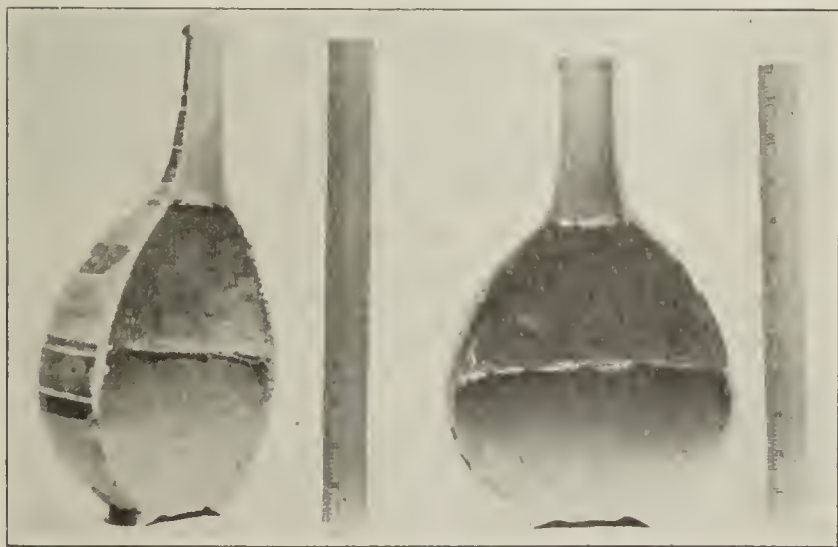
Albert Parsons "Kuotlla" Johnson, Formerly in American Customs Service, Chatting With Family and Friends of Mexican Pottery Worker.

workers have received money, they spend the day about town, then trod homeward, only to resume their work the following morning.

USE CRUDELY MADE SHIPPING CRATES

Crates used in shipping Mexican pottery into the United States are of crude construction, yet in a great measure resemble the "Cummer" or "Texas" onion crate, which is so familiar to the American during April or May, when Texas onions are in season. These crates are made of a wood which rather resembles bamboo, but the "stick" is very hard and tough. They are held together by a tied joint or corner, the "string" being a raw hide and possessing much strength. Wild grass is used in packing, and in this manner the ware finally finds its way into the American market, which at this time is the largest customer of Mexico for this class of merchandise. Laredo, Texas, is the port of entry for all Mexican pottery products, and it is from that city the crates are reshipped to all parts of the United States.

Several kinds of clays, peculiar to that part of Mexico are used in the production of this class of Mexican art pottery. This clay is not mined, as is necessary to obtain American clays, but is available on the surface. Some of these clays are almost jet black, others having a different hue. The clay is not worked thru a lawn, as is done in



Interior View of Mexican Water Bottle, Showing Its Three Sections of Manufacture.

the potteries of the United States, but is made up like dough, and then rolled out on a low flat top stool or table, just as mother would roll out her pie dough. As one mem-

MOLD RECENTLY INTRODUCED

In years past all shaping was done by hand, but more recently the Mexican pottery worker has been taught to use a mold, this being made of either wood or clay. Plaster molds are unknown to the Mexican pottery worker. Very frequently, however, no mold is used whatever, the shaping of the ware being done solely by hand. Here is recalled the old method of "throwing" well known in the early stages of the American pottery industry. A water jug, for illustration, is made in three pieces, then each joined, the lower part of the bowl being about four inches in height, and the upper part also about four inches. These parts or sections are then placed together and then the top of neck of the jug, which is also about four inches in height placed. A "slip" or thin clay is then used to join firmly the different sections. The jug completed thus far is then allowed to dry in the sun. In a little while, or when sufficient ware has been made, the ware is placed in an oven or kiln, this resembling very much the old fashioned American bake-oven. A refuse from the fields is the only fuel used in firing the ware, which, of course is fired only once. Altho the ware is patted by the



Familia Suares, "Fabricantes de Huacales" or Suares Family, Manufacturers of Shipping Crates, Fonala, Tal., Mexico.

hand on the molds or forms, there is no mark indicating the use of the hand visible when the ware is taken from the oven.

MEXICAN CLAYS GIVE HIGH COLORS

Altho Mexican pottery is decorated in high colors, yet these colors are nothing but various hues of Mexican clays. The clay is worked into a liquid or thin "slip" and the decorator then starts the task of decorating.

Once the decorator starts decorating a piece of ware, and he is asked—"what will you put on," the reply will invariably be, "I cannot tell you, I must see how this line looks first." In other words, the Mexican pottery decorator allows his imagination to work out the design. It must be submitted, however, that some remarkable and exceedingly clever decorations and designs are to be noted on all of the Mexican Azteca ware.

An unusual method is followed in producing a "glazed" piece of ware. This work is most generally done by the women. The process is slow, but at the same time results are obtained. This polish, as it is so called by the Mexicans, is obtained by the rubbing of a volcanic or flint-like stone over the piece of ware after it has been decorated. This work finished, the ware is placed on a shelf within the abode,

where it remains until the next Sunday, when it is placed in a large basket and carried to market.

NO TWO PIECES OF WARE ALIKE

There are about forty pottery workers in the Tonalá district. A. P. "Kuotlla" Johnson, formerly of Philadelphia, Pa., and who spent twenty years in the American Customs Service and who has traveled extensively thruout Mexico and speaks all local Mexican dialects, has mingled much with these clay workers, and he is authority for the statement that the pottery worker is a contented and happy worker. Where these workers formerly received about fifty cents per day, they are now able to make from two to three dollars per diem. They produce no two pieces of ware alike, neither do they follow any sketch or design in decorating. They are trying to "remember" the ornamentation that was an Indian vogue before the conquest, and, curiously they are succeeding.

The more recent of these pottery products from Mexico are pure Azteca and practically the same designs as those found in Guatamala. It is interesting, therefore, to know that in the mountains about three hours on foot beyond the town or market, are the ruins of an ancient city which Prof. Hewitt of the Smithsonian Institution, believes formed a link between the Casas Grandes of Chihuahua, the ancient Mixtec Palaces of Oaxaca and the ruins of Yucatan.

Tanola, where much Mexican pottery is shipped from, is a small place of whitewashed tile-roofed houses nestling at the base of the mountains, and about eleven miles north of Guadalajara. In fact, some have considered this point the center of the Mexican pottery industry.

Therefore, the oldest industry on the American continent is rapidly obtaining a new grip on life, which gives promise of extensive growth.



Planning Big Improvements to Plant

Decided activity is anticipated this year in the electric porcelain business, and kiln extensions to some of these plants have just been announced. The Findlay (Ohio) Electric Porcelain Co. will build three additional kilns, a new kiln department and a new warehouse. This improvement is to be undertaken as soon as the weather conditions will permit.



Increases Capital to \$250,000

The Lambertville (N. J.) Pottery Co., specializing in the manufacture of sanitary earthenware and specialties, has increased its capital from \$200,000 to \$250,000. Andrew Faltz, president of the company, is prominent in clay-working circles thruout the state, and is a member of the Executive Committee of the New Jersey Clay Workers' Association.



To Erect 24 New Pottery Kilns This Year

The active demand for American pottery products has caused some interests to anticipate the future, and in this respect it is likely that twenty-four additional kilns will be built in the eastern Ohio territory before the end of this year. It is related that erectors have been asked to prepare plans for such extensions, and these will be delivered before June 1st.



Value of Imported Wares Far Below Normal

Official records show that the valuation of imported dinnerware and chinas from the United Kingdom, Japan and other foreign countries are far below the normal of

former years, and American manufacturers have been called upon to take care of the demand that in former years was given the importer.

Buyers of foreign pottery, who have recently returned from business trips thru England, Germany and France relate that potteries in those countries are not in a position to fill their orders for their local demand. However, some of this product, as a matter of fact, is being shipped the United States. These travelers relate that while help is plentiful in the foreign potteries there is a woeful lack of fuel, and this is causing a decreased production.



China Industry to Grow Near Los Angeles

About 500 acres of land located between the city of Los Angeles and the sea is to be used as a site for the Hammetton Co-operative Industries, according to an announcement made by the City Council. The committee has been informed that the company expects to invest \$750,000 in the enterprise and that there will be several separate plants, of which the china industry will be but the beginning. H. C. Hammetton is the organizer of the project, and he is said to have been connected with the chinaware and pottery industries in the East. It is planned to use 100 acres for industrial purposes, the remaining 400 acres to be subdivided into home building sites.



Lenox Inc. Elects New President

H. A. Brown, general manager of Lenox Inc., Trenton, N. J., manufacturer of high grade chinaware, has been elected president of the company, to succeed Walter S. Lenox, recently deceased. Mr. Brown will continue to occupy his former position of general manager in addition to his new duties. Other officials of the company are: James W. Johnston, vice-president; John L. Kuser, treasurer; and Frank G. Holmes, secretary. William H. Clayton, for the past twenty years production manager at the plant, has been made a member of the Board of Directors thru the reorganization. He will continue to act in charge of production.



Building Four Additional Kilns

Thomas Maddock's Sons Co., Trenton, N. J., has completed the construction of a new kiln at its plant, and placed the unit in service late in January. Four additional kilns are now in course of construction; they are needed badly for production, and work is being rushed in order to allow operation at the earliest possible date. On the completion of these new kilns, the company will have the largest single plant in this country devoted exclusively to the manufacture of vitreous china sanitary plumbing wares.



Omar Khayyam Pottery Receives Medal

O. L. Batchelder, proprietor of the Omar Khayyam Pottery, at Luther's Station, between Candler and Canton, N. C., has received advice from the Art Institute of Chicago that the Omar Khayyam Pottery received a medal for the largest collection of art pottery, and the jury selected from the collection two pieces for permanent exhibit in the museum, giving a handsome price for same.



Maddock & Miller, Inc., 52 Murray Street, New York, dealer in fine chinaware, earthenware, etc., has increased its capital from \$300,000 to \$600,000, to provide for necessary expansion.

The SUPERINTENDENT

Helpful Hints for Practical Men
Whose Problem is Maximum
Production With Minimum Cost

Accurate Methods for Shafting Alignment

Proper alignment of shafting is a subject that has engaged the attention of the mechanical men in industrial plants ever since belts have been used to transmit power, and there is no reason to believe that it will ever cease to be a live topic.

Improved methods of shop practice, however, are operating to make alignment less of a problem. All ideas along this line, therefore, are welcomed by shop men generally, who can be counted upon to absorb new ideas and incorporate them with their previous knowledge.

This item is reprinted from "Belting" which is indebted to one of its readers, a mechanical engineer, for an unusually interesting contribution on the question of shaft alignment, with sketches.

SIMPLEST METHOD PRESENTS OBJECTION

There are several methods of lining up shafting, the writer points out, depending upon the equipment in hand. The simplest method, he continues, is by use of a level as shown at *A* in Fig. 1. This is open to objection, however, that the level is not long enough to indicate any irregularity in the shaft over a considerable distance.

The use of a straight-edge in connection with a level will be found more accurate, especially where there are shaft couplings connecting shafts of two different diameters as may be seen at *B* in Fig. 1. The straight-edge is provided with a screw at each end which rests upon the highest part of the shafting. If it is desired to line up two sections of shafting connected by a coupling as shown at *B*, one of the screws is turned back a distance equal to half the difference in the diameters of the two shafts.

For example, if a 3-in. and a 2-in. shaft are connected, the difference in the diameter is 1 in. but the distance from the periphery of the smaller shaft to that of the larger shaft will be but $\frac{1}{2}$ in. Therefore, the screw at one end should

consist of a wood framework, to the top of which are attached two hook-shaped pieces of strap-iron provided with adjusting screws in the top as indicated in the illustration.

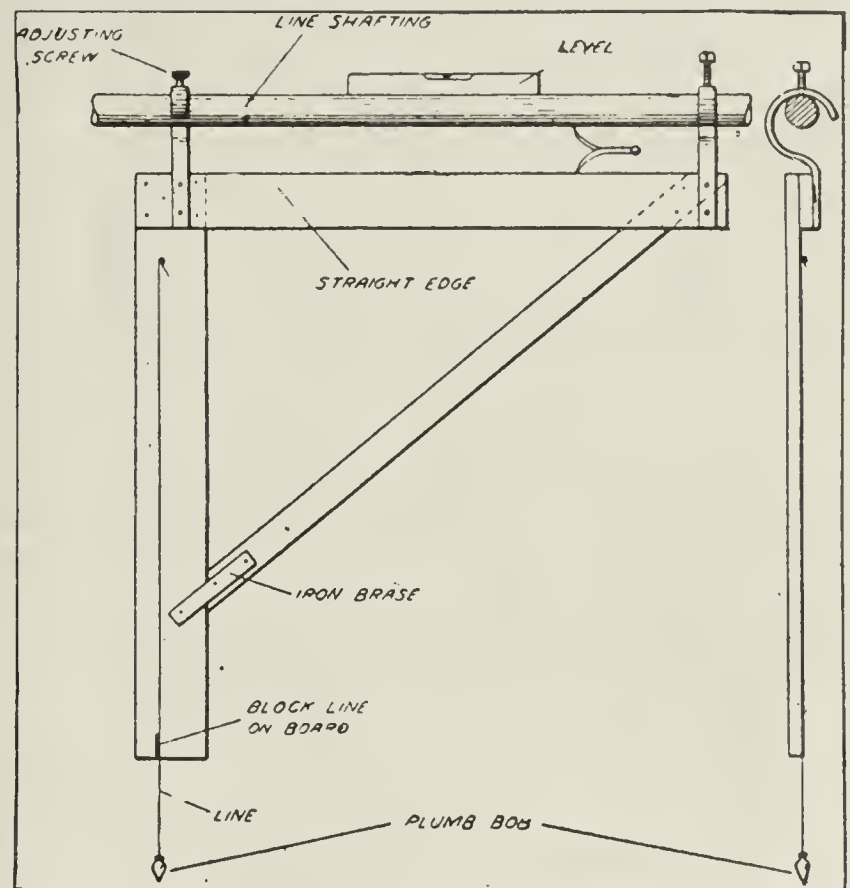


Fig. 2. Details of Leveling Frame.

The top of the wood frame must be a straight-edge. One of the adjusting screws is made considerably longer than the other so that shafting of two different diameters may be lined up around a coupling as accomplished by the straight-edge by means of the adjustable screws.

A section of shafting is first leveled carefully with a level and then the frame is hung on the shafting and calipered between the lower side of the shafting and the top side of the frame, which is the straight-edge, the adjusting screws being turned to make the distance equal for the full length. After this is done, a small mark is made at the bottom of the frame coinciding with the plumb line as shown. The frame is moved along the shafting and when the plumb line deviates from its position opposite the mark on the frame, it indicates that the shafting is not level.

To line up the shaft in a horizontal plane, the simplest method is to employ two plumb lines and plumb bobs, and a steel wire or linen line as shown at *A* in Fig. 3. The use of this arrangement is easily understood. Where there is danger of the plumb lines swaying from air currents, the difficulty can be remedied by lowering the plumb bobs into pails of water as shown in Fig. 4. It is better to place the pail on a wood block so that the plumb bob will not have to be lifted each time it is submerged in the water.

Another method of lining up shafts in a horizontal plane is shown at Fig. 5. A line is stretched in a horizontal plane parallel with the required line of the shafting. A gauge, which may be made in the two forms shown in Fig. 5, is

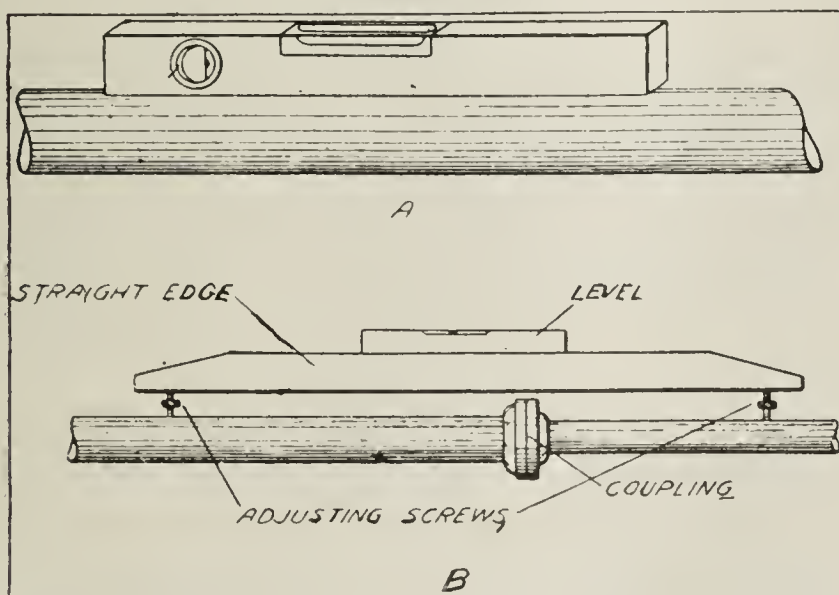
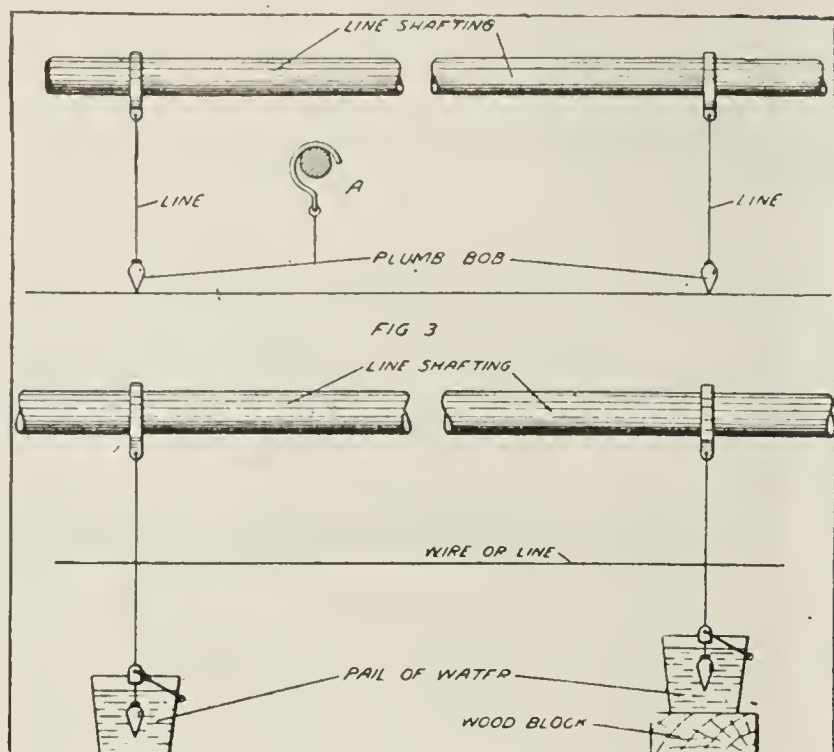


Fig. 1. Use of a Level and a Straight-Edge in Lining Up Shafting.

be turned back until it is $\frac{1}{2}$ in. longer than the one at the end which rests on the shaft of the largest diameter.

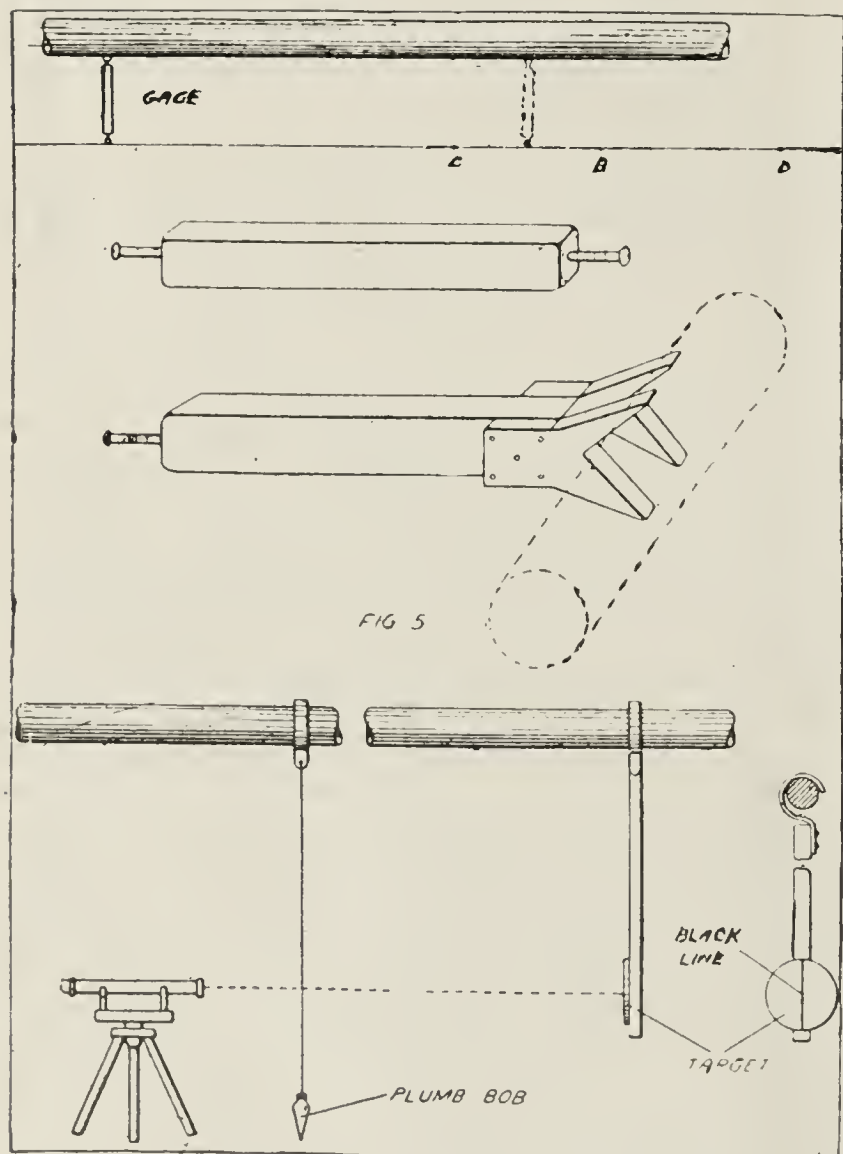
A device which is quite accurate is shown in Fig. 2. This

then held against the shaft and should exactly touch the line. Any deviation will indicate that the shafting is not in line and it has to be moved to correct the trouble.



Figs. 3 and 4. Use of Plumb Lines and Taut Wire or Line.

Where an engineer's level is available the method shown in Fig. 6 is probably the best. A plumb line and bob is hung near the level and a target is moved along the shafting as indicated. Application of this method is easily understood from the drawing.



Figs. 5 and 6. Simple Forms of Gages and Their Use. Engineer's Level and Target Methods of Lining Up Shafting.

In lining up shafting which has non-adjustable hangers attached to the side wall, tin liners are better than wedges

to make adjustments, as shown in Fig. 7. The pieces of tin are cut with a V-notch to straddle the bolt and as many may be slipped under the end of the hanger as needed to bring it under shafting in proper line.

✂ ✂ ✂

Baffles Should Be Tight

One subject that is seldom touched upon in connection with boiler management is the baffle wall. A baffle seems to be a very simple part of a boiler setting and therefore worthy of but little thought, but that is not the case. Baffles should be correctly designed, correctly placed in the boiler tubes, and they should be leakless. Tests have proved that they cannot be placed haphazard here and there. The volume of the hottest gases usually determines the position of the first baffle encountered. Then, as the gases reduce in volume, due to coming in contact with the tubes and giving off heat, it is clear that the second baffle must be so placed that there will be no reduction in gas velocity. And so on. As the gas

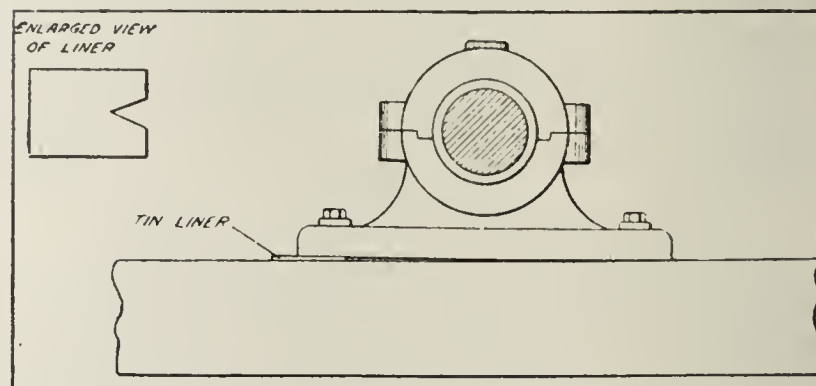


Fig. 7. Tin Liners Used for Wall Hanger.

moves from pass to pass the baffles are placed closer and closer together.

If the baffles leak because of loose or careless construction, the hot gases will "short cut" thru the baffle and escape up the chimney without giving off the full amount of heat. The chimney gases will be too hot. Holes in baffles should be stopped up with plastic fire brick. Or, where the baffle is in a tumble-down condition, it might be well to replace the entire baffle with a new leakless monolithic baffle of this plastic composition.—*W. F. Schaphorst.*

✂ ✂ ✂

Heads Up!

Look up with a sign of recognition in your eyes when you chance to pass a fellow-worker at the plant. Let the other fellow know that you saw him go by. Be human.

It doesn't make any difference whether or not you know the man you are passing, give him some sort of a friendly salute—a smile or a pleasant greeting. The other fellow is a human being just the same as you.

To exchange a cheery passing glance or salutation needn't cause you to lose a moment's time. It can be done without any interference with your regular work.

You can pass a smile or pleasant remark to all persons you happen to pass by during the day and not lose a step, even when you're doing a double quick.

A smile or word of cheer helps to make the day's work easier and better.

The next time you run across a fellow-worker, let a gleam of recognition shine in your eye, smile and say something pleasant. Be human.

It's all right for a turtle to pull its head inside its shell when it sees a man pass, but a turtle is a reptile. Don't be a turtle.—*Gary Works Circle.*

IN *the* WAKE *of the* NEWS

Being a Brief Mention of a Host of Interesting Happenings in the Varied Fields of the Clayworking Industry

Takes Short Inspection Trip

J. M. Adams, general manager of the Ironclay Brick Co., of Columbus, Ohio, left recently for Hanover to inspect the plant of the Hanover Face Brick Co.

Influenza Takes Plant Manager

T. B. Weaver, general manager of the plant of the Fort Smith (Ark.) Brick Co., died of influenza-pneumonia on February 5th, at his home in that city.

Ransbottom Elected Director Insurance Co.

Frank Ransbottom, president of the American Clay Products Co., of Zanesville, Ohio, has been elected a director in the American National Fire Insurance Co., of Columbus, Ohio.

How Are Prospects in This Territory?

Emmet Howard, head of the Columbus (Ohio) Fire & Face Brick Co., has returned from a business trip to Huntington, Charleston, W. Va.; Portsmouth, Ohio, and Ashland, Ky. He was looking over the prospects for business in that section.

H. K. Lackland, Fire Clay Maker, Dies

Henry Kayser Lackland, prominent in the fire clay industry of St. Louis, Mo., died at his home in that city on February 3, after a long illness, at the age of 52 years. Mr. Lackland was for many years an officer of the Laclede-Christy Clay Products Co., of which his father, the late Edgar C. Lackland, was one of the founders. Later he was one of the managers of the fire brick department of the Hydraulic-Press Brick Co.

J. N. Porter to Run for Senatorship

J. Nesley Porter of Kenilworth, W. Va., is the first Hancock County man to throw his hat into the ring at the primary election in May. Mr. Porter has announced that he will be a candidate for the Republican nomination as state senator from the first district of West Virginia. He is a son of Captain John Porter, and is engaged in the business which his father started in Hancock County 38 years ago, being at the head of the Globe Brick Co.

Pioneer Iowa Clay Man Dies

Daniel F. Morey, a pioneer Iowa clay manufacturer and one of the best-known men in the industry thruout the state, died January 30th at his home in Ottumwa. Mr. Morey's death followed a surgical operation. He had been in the clay business in Iowa for many years and his plant at Ottumwa was the largest in southern Iowa.

Daniel Morey, Jr., will succeed his father at the head of the business and arrangements have been made to open a down-town office at Ottumwa. J. G. Parks will be in charge of the city office.

Just previous to the death of Mr. Morey, work had been started on an eight-track addition to the dryer at the plant.

New Head of Brick Department

Carl R. Kidner, formerly with the Building Products Co., has been placed in charge of the brick department of the Columbus (Ohio) Builders' Supply Co. The offices of the concern are located at 145 North Front Street, and the yards at 408 Dennison Avenue and 311 Dublin Avenue. Mr. Kidner will have charge of common and face brick, pavers, hollow tile and terra cotta. More attention will be given to the brick end of the business.

The company recently held its annual stockholders' meeting, electing William F. Kern, president, and H. K. Hill, secretary-treasurer.

Inventor of "Proctor" Dryers Dies

The sudden death, from pneumonia, of J. K. Proctor, of Wyncote, Pa., founder and for many years president of the Philadelphia Textile Machinery Co., and originator of the well known "Proctor" dryers, which occurred at Ocean City, February 11, has been a great loss to his many friends and business associates.

Mr. Proctor was born in Chelmsford, Mass., March 11, 1848. When a young man he came to Philadelphia and started in the machinery business under the name of Proctor & Lindsay, afterwards the Philadelphia Burring Machine Co. and then the James Smith Woolen Machine Co., where he designed and built the first garnett machine made in the United States. In 1883 he founded what in 1885 became the Philadelphia Textile Machinery Co., now located at Seventh and Tabor Road, Philadelphia, to build garnett and other woolen machinery. By 1890 he started to design and perfect the drying system now known as "Proctor" dryers, which have revolutionized drying methods.

Streator Co. Loses Veteran Officer

On Sunday, February 8th, John B. Marshall, bookkeeper and auditor of the Streator (Ill.) Drain Tile Co., died of pneumonia, following an attack of influenza extending over a period of two weeks.

Mr. Marshall was formerly with the A. T. & S. F. R. R. Co., but came to the Streator Drain Tile Co. when it was organized three years ago. He was thirty years of age when he died and leaves a wife and two daughters.

"It would be difficult for us to exaggerate his ability and splendid character," writes J. A. Reeves, of the Streator Drain Tile Co. "He was very much interested in the clay business and the industry will feel his loss as he was rapidly becoming efficient and within a short time his judgment as to cost accounting and other intricacies of the business would have been an asset to the clay products manufacturing business. He was a prominent member of the Y. M. C. A. and particularly interested in athletics. He was of Scottish birth and one of the local officers and active members of local Clan McGregor."

FIRE BRICK

DOVER FIRE BRICK CO.

Incorporated 1870

Manufacturers of North Bend, Dover and Buckeye Brands.

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Unexcelled for Kiln Purposes

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For handling coal and
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highly efficient.

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Eclipse Mortar and Brick Colors

Superior to all; Reds, Browns, Buff, Black
Samples on application

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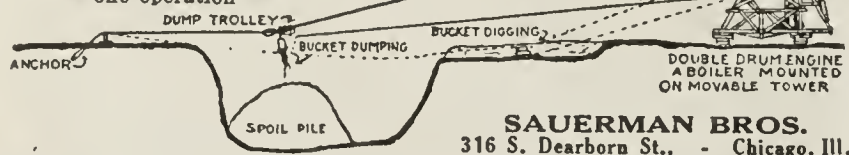
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SAUERMAN'S

Dragline Cableway Excavator

It digs, conveys, dumps in
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SAUERMAN BROS.
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For Mortar Cement and Brick

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"HERCULES" (RED STRAND) WIRE ROPE

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Its Strength and toughness
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THE ORIGINAL COLORED STRAND WIRE ROPE

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SAN FRANCISCO.

Brick Industry Loses Prominent Architect

Louisville lost one of her leading exponents of brick construction in the death on February 17, of J. Earl Henry, of the firm of Nevin & Henry, architects, who died of neuritis following a week's illness. Mr. Henry was thirty-eight years of age, and started in Louisville with Brinton B. Davis. He drew the plans for the Broadway School, and upon the strength of the fine workmanship shown, was secured by the Board of Education, and was employed by that concern until he resigned a few months ago to go with Hugh Nevin. However, the Board of Education held him as consulting engineer under a nice salary arrangement. Mr. Henry built the Boy's High school and a large number of other schools, all of which were of fine face brick construction. In 1912 a fund of \$1,000,000 was raised for new schools, and this fund was expended in erecting handsome brick school buildings thruout the city. During the war period he also looked after the duties of the Business Director, who was in France. At the time of his death he was busy in connection with erection of the Billy Sunday Tabernacle at Winona Lake, Ind. He was a native of Chillicothe, Ohio. He is survived by his wife and two children.

Increase of \$100,000 in Capital Stock

Notice of an increase of \$100,000 in the capital stock of the Birmingham (Ala.) Clay Products Co. was filed for record in the Probate Court on February 17. The capital stock of the company was increased from \$25,000 to \$125,000. E. J. Lee Rust signed the declaration as president of the company and John W. Sibley as secretary.

Will Establish Pottery Plant at Douglas

C. E. Baudisch has resigned from the recently organized brick and tile company at Douglas, Ariz., of which he was the originator, in order to establish a pottery plant in that city. Mr. Baudisch states that an excellent clay for all pottery purposes has been discovered and he hopes to establish a six or eight kiln pottery which would employ about one hundred and fifty people, in the near future.

Plan Expansion to Include Clay Products Manufacture

At the annual meeting of the McKnight Fire Brick Co., of Porterville, Cal., it was decided that the manufacturing activities of the corporation should be expanded during the new year. Additional kilns are being planned and arrangements made for the installation of machinery for the manufacture of building materials. Heretofore the products of the company have been limited to high grade refractories for use in cupolas, open hearths and smelter furnaces. Due to the scarcity of common brick in the San Joaquin Valley section, the directors of the company have decided to install machinery immediately for the manufacture of face brick, building tile, sewer pipe, roofing tile, etc., the manufacture of these last mentioned products to be taken up as a side line and expanded as the demand merits. It is said that the clay supply is ample for all purposes. The newly elected directors for the year are R. S. Elliott, president; E. K. McBride, vice-president; John McKnight, general manager; E. M. Vogel, secretary, and C. M. McKnight, treasurer.

✻ ✻ ✻

It is reported that an abundance of excellent brick clay has been found on property owned by Edward Transure, near Corning, Cal.

To Capitalize for \$150,000 at Ione

On January 26 a meeting was held at Ione, Cal., presided over by E. W. Perkins, at which plans were discussed for the erection of a plant for the manufacture of clay and sand products. A large deposit of good clay and sand is located near Ione and has been worked for a number of years, the raw material being shipped away. The present plan is to use the clay and sand in the manufacture of terra cotta brick, tiling, and other forms of clay products. It was decided at the meeting that a corporation, capitalized for \$150,000 should be organized and a committee appointed to obtain stock subscriptions. L. A. Steiger, of San Francisco, was present at the meeting and has interested himself in the proposition. It is his opinion that at least one-half of the stock can be disposed of in San Francisco. If present plans materialize, the construction work on the new plant at Ione will be started about May 1.

Incorporate Under Delaware State Laws

Two new brick and tile companies have been organized at Wilmington, Del., under state laws. These are Charles F. Lorenzen & Co., and the Bloomington Brick & Tile Co.,; the first noted has a capital of \$3,150,000, and will manufacture common brick, tile partition block, etc. The incorporators are: M. A. Bruce, T. L. Croteau and S. E. Dill, all of Wilmington. The Bloomington Brick & Tile Co. has a capital of \$1,000,000 and will manufacture kindred products to those mentioned. The incorporators of this organization are: C. H. Blaske and T. L. Croteau.

Prices Holding Strong at Wilmington

The building material market at Wilmington, Del., shows no important change, save for a slight advance in a few basic commodities. Common brick has reached a point of \$22 a thousand, and the call continues firm; local alteration and improvement work is utilizing considerable quantities of the material. Face brick is not so very active at the moment, but the outlook for a good market in this line seems very bright; the spring season is expected to usher in a very healthy call. The present price range is around \$40 to \$42 for good selections, with more modest varieties obtainable at \$35 a thousand. Fire brick is holding its own in a satisfactory way, with prevailing quotation around the \$70 mark. There is a good call for hollow tile, drain tile and other burned clay products, with prices holding strong. Building material dealers with transportation difficulties are having trouble in maintaining stocks, and there is no immediate relief in sight.

Wilmington Will Use Much Face Brick

Wilmington, Del., is hitting a very active stride in building construction. The contrast in some of the "lean" months past is distinctly noticeable, for the city has been a little slow in coming around to a point of real activity. But that it is now arriving seems assured, for the volume of work coming forward is of no mean order. In the business district alone, projects as now planned will represent an investment of over \$4,000,000; these include a new building for the Delaware Trust Co. to cost \$1,250,000; new Y. W. C. A. building, costing \$350,000; new public library, estimated to cost \$850,000; Presbyterian Church, \$500,000; and a number of apartment houses and other structures. Brick and other burned clay products, including face brick, will be used in large quantities for this work, and local building material inter-

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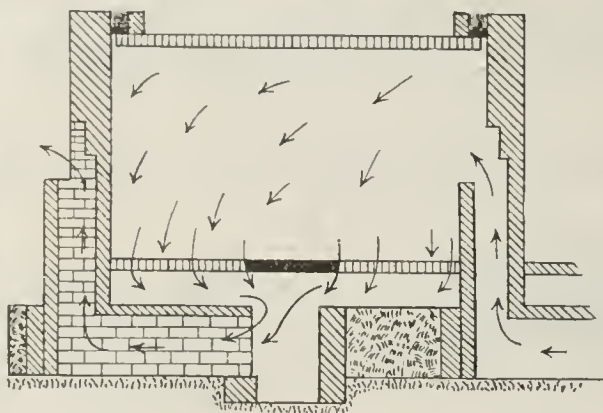


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They say:

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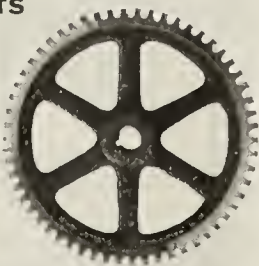
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ests view the outlook with hearty favor—spring is going to mean very busy times, and they are becoming "keen" to the movement. Another matter not to be neglected in the matter of new construction is state road work, and considerable activity in this direction is looked for. The state primary system as outlined embraces 270 miles of highway, and of this total about 73 miles have now been completed. This year, the Highway Department has a fund of \$750,000 available for new construction, divided into an amount of \$250,000 for each county. Other county and municipal appropriations will bring this up to about \$3,000,000.

Face Brick Supply Scarce at Washington

Building material dealers at Washington, D. C., report a good call for supplies of all kinds, with clay products well in the forefront in range of call. Common brick is now being quoted at \$24.50 per thousand, delivered on the job by the material men, while local manufacturers are supplying material from the yards at a price ranging around \$20. There has been an advance in hollow building tile prices during the past few weeks, as well as partition clay tile. The latter commodity, 3x12x12 in. is priced at \$120 per thousand, and 4x12x12 in. at \$130. Other clay products, as drain tile, pipe, etc., are in good call, with present quotations holding firm. Face brick is selling for \$38 and upwards, according to color and grade, a nice selection being securable at about \$45. The supply of face brick is scarce, and there is no early relief in sight.

Washington Clay Products Men Optimistic

Construction work has been going forward in a rapid way at Washington, D. C., and the little lag that has come during January and February is due to the weather conditions. Recent storms in this section have been the most severe that the locality has experienced in years past, tying up traffic and transportation, and reflecting, naturally, in decreased building projects. The outlook for the spring season is decidedly bright and those in the brick, building supply or other branches of the construction trades are decidedly optimistic in this connection. The City Club, Colorado Building, is having plans prepared for the erection of a new nine-story and basement club building, to be located at 1310-20 G Street, and estimated to cost about \$1,000,000; a new church to cost \$100,000 will be constructed by the Greek Community of St. Sophia, at Eighth and L Streets; and a theater building to cost \$60,000 will be erected by the Home Amusement Co., at the corner of Eleventh and North Carolina Streets.

To Make Common Brick and Pipe

A new company, to be known as the Cairo (Ga.) Brick Co., has been formed to operate a brick plant in Cairo, and will begin in the very near future. The plant will be owned and operated by M. S. Stewart and C. E. Griner, contractors and builders. Ground has already been broken and machinery ordered. The plant will have a daily capacity of 15,000 brick. Common brick and culvert pipe will be produced.

Assumption Plant Granted Charter

The Assumption (Ill.) Clay Products Co. was granted a charter on February 6. The company has a capital of \$10,000. The incorporators are William E. Allison, Ervel W. Hight and Leonard Tripp.

Promote Brick Plant for Ashton, Idaho

Plans are underway for the organization of a company to put up a modern press-brick plant at Ashton, Idaho, which will sell brick to the entire Upper Snake River Valley. The matter is to be brought before the Ashton Commercial Club at its next meeting, for support and further investigation. It is understood that enough capital has been pledged to start the plant.

Export Business Good, Plans Improvements

Cannelton (Ind.) Sewer Pipe Co. reports that it is having the largest demand for pipe in its history, and the production of the plant is sold for approximately three months ahead. The company has been doing a great deal of export business lately, and now has orders booked for business in Cuba and other foreign points. Large improvements are to be made at the Cannelton plant in the way of new kilns and labor saving machinery to take care of the heavy demand for its products and at present the construction of additional kilns, a new dry room and an additional switch at the brick plant is being planned.

Adding Three Kilns to Acme Plant

The Des Moines (Iowa) Clay Co. is adding three new kilns to its Acme plant, north of Des Moines.

Society Growing in Members and Scope

The Permanent Buildings Society now has thirty-one Iowa clay plants numbered on its membership roll and additions are being made weekly.

May Operate Hoertz Plant to Fill Orders

The Southern Brick & Tile Co., Louisville, Ky., is very busy at the present time, and is operating at full capacity in keeping up with demand. Drain tile business has been good, and the company may operate the old Hoertz plant again this season in order to take care of increased demand.

Progress Plant Running Full, Demand Active

Andrew Hillenbrand, of the Progress Pressed Brick Co., Louisville, Ky., reports active demand, with the plant running full, and delivery equipment kept on the jump. The company has many small orders, and several good sized ones, and feels that this is one season in which it will have no need for worrying about business not coming fast enough.

Car Shortage Hits Kentucky Mines

Louisville brick manufacturers are fairly well supplied with coal, and are not worrying much concerning a threatened coal famine, as a result of shortage of cars at the mines. Kentucky mines have been working two to three days a week due to car shortage, and have threatened to file suit for \$12,000,000 damages against the U. S. Railroad Administration.

Plan to Ask 35% Increase in Freight Rates

At a recent meeting of traffic experts in Louisville it was reported that the railroads plan to ask an increase of thirty-five per cent. in freight rates upon going back to private control. The Interstate Commerce Commission will hear the case, and there seems little doubt but what an increase is coming to the carriers and will be granted. It is pointed out that roadbeds are in poor shape, that there is a shortage of 600,000 cars in the country, and motive power sufficient to handle them. To supply full car supply it is



"LOXALL" Popular Hollow Tile

is being licensed to manufacturers in the U. S. A. and Canada. It has earned the title of "Popular Tile" because it is easy to make, lay and sell, and is liked by the

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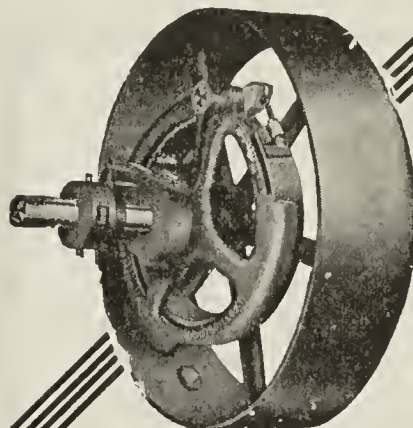
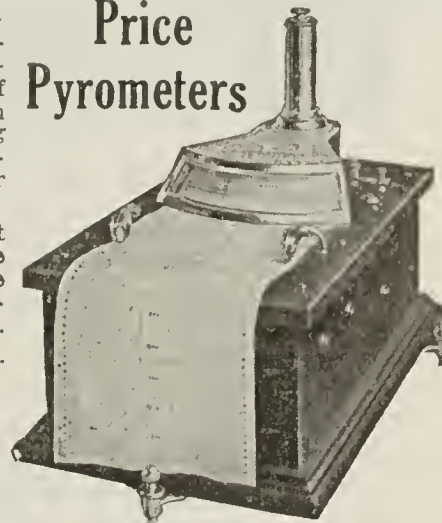
By giving burners an accurate control over temperatures, and helping to prevent useless shoveling of coal, Price Pyrometers in many plants are saving tons of coal. These instruments have repaid their first cost long ago.

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Nonpareil Anti-Friction Metal is particularly helpful on heavy bearings in brick and clay plants, on motors, cars, and on all bearings that are apt to develop friction and heat. More power. Less shrinkage and less oil. No more hot journals.

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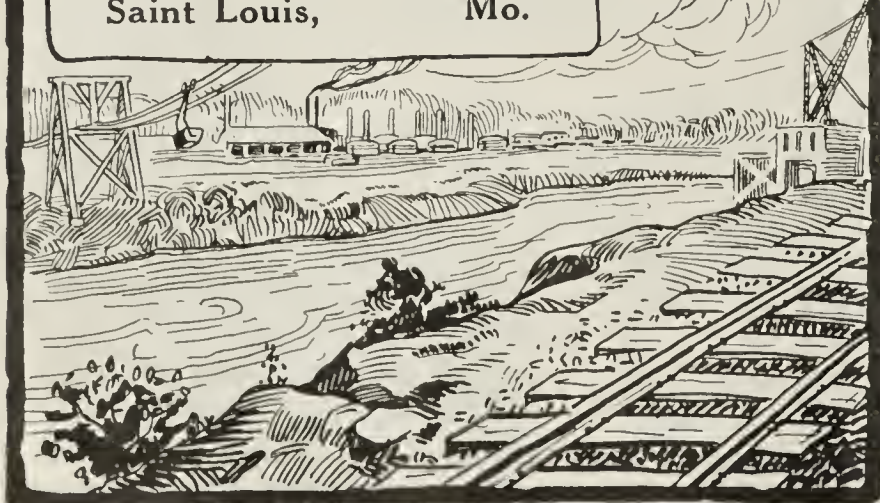
What we say about B & B System of Aerial Tramways is made all the more convincing by what clay manufacturers themselves say about it.

It carries material over natural obstacles—rivers, hills and highways—at surprisingly low operating and maintenance costs, is always on the job, rain or shine.

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We also manufacture Yellow Strand Wire Rope.

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claimed that the roads must build freely, and that without increased rates they can't even borrow to build. There is also a movement to get the Government to construct 250,000 cars to be leased to the carriers.

To Open Brick Yard in Boom Town

A recent report from Dawson Springs, Ky., was to the effect that Lee O. Dixon and T. P. Beard had formed a new firm that would open a brick yard about March 1. This looks like a good opportunity in view of the fact that the Government has let contracts for a Federal Hospital at that point, costing several millions of dollars. While the new yard may not secure much Government work the bringing of the hospital to that point is booming the old town, which is expected to grow like a mushroom, creating many new stores and a good demand for material.

50 Cars Material Held Up Awaiting Cars

J. H. Bell, sales manager for the Louisville (Ky.) Fire Brick Works, reports a very active demand for fire brick, with the railroads, steel and iron mills, refiners and other large consumers buying freely, with prospects of even better railroad buying after March 1, when roads go back to private control. However, car shortage is giving the company much trouble, as more than fifty cars of material are being held up at the Louisville plant alone for cars, and the situation is nearly as bad at the Grahn, Ky., plant. Out-bound shipments this month have been thirty per cent. lower than they should have been due to car shortage.

Anticipate a Demand Greater Than Supply

A. P. McDonald, sales manager for the P. Bannon Pipe Co., Louisville, in discussing conditions said: "It is already a big year with us, as we have enough work ahead of us to figure that with new business we will be rushed thru the season. At the present time we are paying no attention to common brick demand, and making no effort for new business on fire brick. Hollow tile and sewer pipe are in such heavy demand that we are bending our energies in supplying this demand, and have confidence that the demand will be greater than the supply thruout the year. Tile is especially promising, while much municipal as well as private work will require sewer pipe."

Orders Pour In—Labor Situation Serious

Business took a slight slump for a day or two in mid-February in Kentucky as a result of the coldest weather of the winter, when the thermometer dropped to four degrees above zero, which held up outdoor work and checked deliveries momentarily. High winds made it practically impossible for men to work without shelter for a day or two, but orders kept on coming in, and new projects came out as fast as usual. All indications point to the largest volume of building ever known in Louisville, and the chief question today is where is the material coming from? In view of the fact that the coal strike reduced stocks in the hands of brick men; that lumber stocks are lower than ever before known; that steel is at a premium, and that cement, lime, and other products are far below normal in size of stocks, it is a serious question just now as to how the big volume in sight is to be handled, and again the labor situation promises to cause trouble. Common labor is getting around thirty-five to forty cents an hour for a ten hour day, in some cases working eight hours. Carpenters are asking for more money, and bricklayers are stating what they wish. Demands on la-

bor are expected to be so heavy that labor will be in position to demand more and come fairly close to getting it.

To Engage in Brick Manufacture

With an authorized capital of \$100,000, the Willowbrook Brick & Tile Co. has been chartered at Shreveport, La., to engage in the manufacture, buying and selling of brick, tile and other clay products. The officers and directors of the company are: President, Dr. F. M. Brown, of Blanchard; vice-president, J. A. Jimerson, of Ruston; secretary, Raymond Ludwick, of Ruston; treasurer, Norman McDonald, of Ruston. The company owns 50 acres of land near Blanchard and ground has already been broken for the construction of a brick plant, which will be completed and in operation very soon. Dr. F. M. Brown, the president, will be general manager of the plant and A. J. Kautz, of Chicago, superintendent and engineer.

Will Operate Own Clay Mines

A new clay-working company has been organized at Baltimore, Md., under the name of the Precision Grinding Wheel Co., 101 East Fayette Street, with a capital of \$400,000. This organization will operate clay mines, as well as bauxite and other mineral properties for the production of raw materials, and will also establish a manufacturing plant for the production of finished articles from these commodities, including abrasive and grinding specialties. The incorporators are: Joseph P. Murray, Frank S. Muzzey and F. Stanley Saurman.

Building Additions to Increase Capacity

The Cambridge (Md.) Brick Co. is planning for the erection of additions to its plant to bring the capacity up to a point of about 20,000 brick per day. A new building will be erected, and complete equipment installed for different features of production. Contracts for considerable machinery have now been let. The company will divide production between common and face brick, and proposes to enter into the manufacture of hollow tile and drain tile. The plant is now operated on the open yard plan. H. L. Longenecker is head of the company.

Fire Clay Advances from \$15 to \$18 Per Ton

There is a good, healthy call for building materials of all kinds, including burned clay products, at Baltimore, Md. Common brick is operating under a rather wide price range, varying from \$22 to \$30 a thousand, delivered. The first noted price is that being made by local producers, and the latter by a number of the mason material dealers. The demand for brick is strong, and available stocks are none too plentiful. Fire brick is selling for around \$71 a thousand, and under an increasing market, brought about by the activities of the local industrial plants. Fire clay has advanced in price from \$15 to \$18 per ton. Hollow building tile, partition tile, drain tile, etc., are other clay products in popular favor, and the different specialties are holding firm at current price levels.

285 Dwelling House Plans Filed in January

The building movement that started in Baltimore some months ago continues with a vim. While the weather is having a little effect in retarding activities to the more normal plane, the winter is not quite so severe hereabouts and progress cannot be made in certain directions. That this progress is being made is shown by the records of the local



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And you can do this with perfect safety by using

**R. H. Precipitated
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It neutralizes the salt in your clay so that it cannot appear on the surface of the brick after it gets wet.

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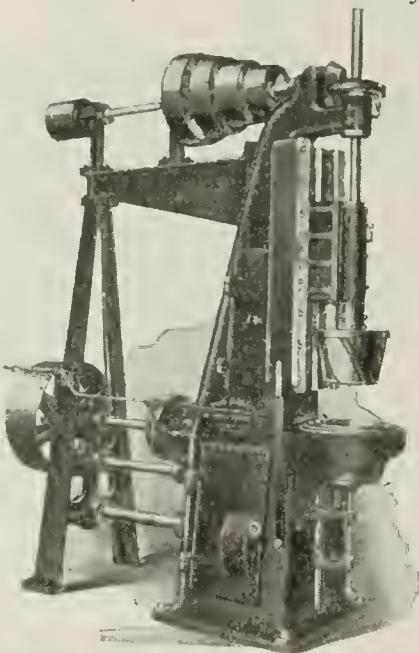
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One manufacturer who purchased a Baird Pottery Machine about eight years ago, and another machine two years later, reports that both were "a success from the start."

"The nicest part of this business is that all these pots are uniform and true in size, each one is exactly the same weight, which makes it much more convenient in stacking and burning the pots than it would be if these pots were made on the older style machines or made by hand."

The Baird Machine has speed, can be operated by any ordinary workman, and costs little in power, oil, and grease to operate. Let us tell you what other manufacturers in your line of business are doing to add to their profit with one or more of these machines.



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Our engineers are at your service. Ask for a copy of booklet describing the Burton Locomotive.

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building department. Both housing and industrial work are receiving attention, and projects of the latter nature appear on an ever increasing scale. The Globe Shipbuilding & Dry Dock Co., recently organized with a capital of \$5,000,000, is planning for the erection of a large shipbuilding plant in the Fairfield district; the Columbia Graphophone Factories Corporation, another new concern affiliated with the Columbia Graphophone Co., New York, is acquiring additional property in the Orangeville section for its proposed new works in this locality; the Kennedy Corporation has been organized to construct a large works for the manufacture of automobile cylinders, engine parts, etc. These and other similar enterprises will require vast quantities of brick and other building materials, and orders for certain requirements are being placed ahead with the dealers in order that there will be no trouble in securing stocks exactly as needed. The building work in this city in January, just past, showed an increase of over 650 per cent. as compared with the totals of the corresponding month of last year, amounting to \$2,429,300. Plans were filed in this month for no less than 285 dwelling houses.

New Company Capitalized at \$250,000

The Garden City Pressed Brick & Stone Co. has been formed at Springfield, Mass., to manufacture brick and deal in building materials, and has received a Massachusetts charter. The concern is capitalized at \$250,000. The incorporators are Harlow S. Halliday, John H. Macmillan, George A. Bacon, Joseph W. Hayes, Allan C. Inman, and Eben J. P. Sullivan, all of Springfield.

Boston Brick Jumps to \$30 Mark

Common brick prices in the Boston market have taken another jump this month and dealers are now asking \$30 for "up and down" brick, delivered on the job. Dealers are by no means sure that this is the peak, altho with the approach of spring and a general resumption of manufacturing it is expected there will be an easing off. February saw little activity either among manufacturers or dealers in Boston or New England. The heaviest snow storm in a quarter of a century came during the first week in the month and effectively tied up business in this as well as all other lines. Deliveries were impossible for several days and work generally was suspended on building jobs so that the demand fell off at the same time.

Installing Labor Saving Devices

Standard Brick Co., Grand Rapids, Mich. is anticipating an exceptionally heavy demand for brick this season. They have recently booked an order for 2,200,000 brick and several orders calling for 100,000 to 250,000 brick each. The company is installing a gasoline haulage motor to convey its clay to the factory, thus eliminating mules, drivers and extra help at the bank.

Coal Shortage Causes Reduced Output

Unless the Detroit brick manufacturers are given more liberal treatment with regard to coal shipments, they will have to reduce their output, it has been stated recently. Brick manufacturers have been forced to go into the open market and buy coal despite contracts covering their needs, because the railroads have been deflecting the shipments of coal to suit themselves, regardless of the plight of the common brick makers. Some plants have been forced to close down various units because of lack of coal.

Burning Own Brick to Build Kilns

The Delta Brick & Tile Co., Greenville, Miss., which was chartered last September with a capital of \$50,000, of which \$40,000 was paid in cash, has put in a modern brick plant to manufacture dry pressed brick and is now preparing to burn same with Mexican crude oil. "We have just gotten our machinery started a day or two ago," writes F. L. Campbell, secretary-treasurer of the company, "but as we will have to burn our brick to build the permanent kilns, in green kilns, it will be about two months before we have any brick for the market. There is quite a lot of building going on in this section and a great deal more planned, but awaiting material."

R. R. Situation Worrying St. Louisans

The railroad situation is causing brick manufacturers some concern. While a good part of the southern shipping will be done via the Mississippi River barge line, shipments of products for western consumers are likely to be uncertain because of the car shortage and the confusion that shippers are anticipating when the railroads are returned to the owners March 1, when the big volume of freight will start to move. Little difficulty is expected in the South and Southwest because of the recently granted joint rail and river rates, particularly in Texas where St. Louis concerns are figuring on much business and where a building boom is almost certain. Some manufacturers are also experiencing difficulty with the railroads in getting coal in sufficient quantity from the Illinois fields. This trouble, however, is not serious, but is a handicap in their efforts to speed up production.

Anticipate Record-Breaking Sales

St. Louis manufacturers are making probably more brick than ever before in their history in anticipation of a record-breaking sales season. While the building situation has developed some new issues that are of deep concern to all manufacturers of building materials, virtually all of the clay products plants are running at full capacity. One or two manufacturers erected one or more extra kilns last fall and consequently are better prepared to handle a larger business. Other plants are contemplating further improvements.

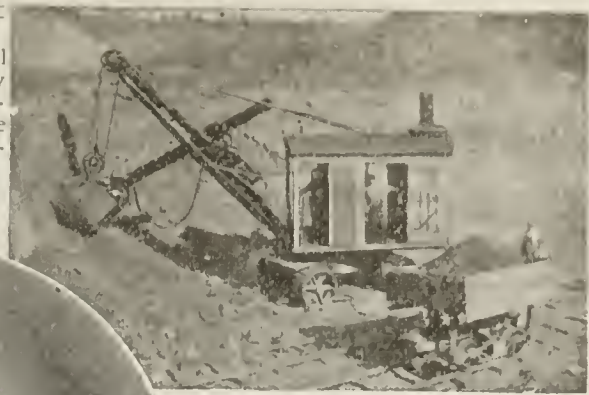
Business already in sight promises to surpass last season and work being figured is almost abreast with the present output in St. Louis, an official of a large plant said. Representatives of out-of-town concerns are bidding on a great amount of work which ordinarily would not be offered until the middle of March, but there is also much work being held back, altho certain of realization this season. It might be said that both dealers and contractors to a great extent are hesitating because of market conditions. On the other hand, there are a number of large projects to be completed this spring and summer that cannot wait on conditions and material contracts are being bid on many of them.

Those firms dealing in hollow tile anticipate an increase in the output of the product which has never been used to much extent in this vicinity. In the latter part of last season, however, a marked preference for hollow tile was shown by many builders of dwellings, and manufacturers are preparing for a larger output than ever.

To Construct Million Dollar Plant

With a view to developing Nebraska into one of the leading brick manufacturing states of the country, the Nebraska Clay Products Co. has been formed and will begin at once the construction of a \$1,000,000 plant at Tekamah, north of

ERIE Shovel
owned by
Jackson-
Bangor Slate
Co., Pen Ar-
gyl, Pa.

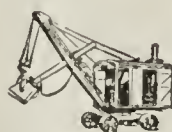


"Very Economical"

"During the past year we have moved approximately 50,000 cu. yds. of slate shale with our ERIE Shovel. It is a wonderful machine, ideal for our work, as it is easily moved.

We find it very economical and inexpensive. We are very much pleased with our investment." N.M.

Male, Sec'y, JACKSON-BANGOR SLATE CO. Pen Argyl, Pa.



Serves as
Steam-Shovel
or Crane
(Clamshell)

The ERIE Shovel is easy to operate. Very speedy. Built with extra strength all the way through. Gives steady service in hard shale.

Let us send you full details about the ERIE Shovel, and what it will do. Write for Bulletin B.

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Builders of ERIE Steam Shovels and Locomotive Cranes

ERIE Revolving Shovels

BALL
Engine Co.
Erie, Pa.



Light steel rails

We saved the day for the Clay and Coal Operators in War Times by furnishing BUCKEYE MINE RAILS, whenever and wherever needed, and while many other Steel Mills were running exclusively on other material, you could not have operated without us at that time.

Now, in Times of Peace, we ask that you do not forget us, as we can, and will render the same unexcelled service, and furnish the same high quality of material. "Buckeye means best", and BUCKEYE LIGHT STEEL RAILS are better still. All sections from 12 lb. to 40 lb. inclusive always in stock for quick shipment.

Let us have your inquiries, and we will take the chance of developing them into orders on our books.

THE BUCKEYE ROLLING MILL COMPANY
STEUBENVILLE, OHIO

Ready for Service

Jenkins Valves can be installed with a feeling of confidence. You can place them in service and know they are ready to meet any condition that may arise.

The severest service to which a valve may be subjected, not the average service, has been considered in the design and manufacture of Jenkins Valves. Every valve in each type is made heavy and strong enough to meet any condition that may arise in the use for which it is recommended.

In the cross sectional drawing of the Jenkins Brass Globe Valve herewith note the uniformly heavy construction throughout. There are no weak points, no parts unable to cope with the service and wear demanded of the valve.

Jenkins Valves are made in types and sizes to meet all requirements. Know them by the Jenkins "Diamond Mark."

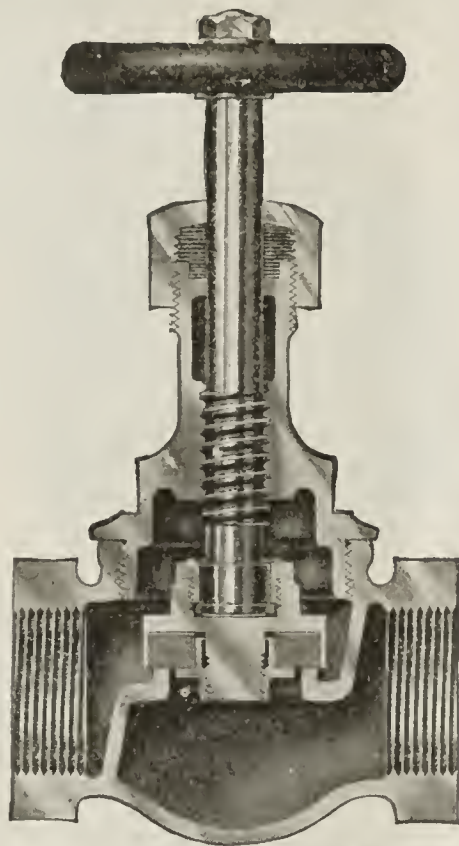


JENKINS BROS.

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Jenkins Valves

2099-J



Omaha. This company, capitalized at \$1,500,000, has acquired the plant and clay deposits of the Farmers' Clay Products Co., at Tekamah. The present factory of 50,000 capacity will be remodeled and will be operated in connection with a new three-unit plant of modern construction. Each unit of the plant is to have a capacity of 165,000 brick a day. J. E. Haarmann is president of the Nebraska Clay Products Co., Thomas Young, secretary-treasurer, and H. H. Smith, general manager. Main offices of the company are at 420 Bee Building, Omaha.

Fire Brick Company Incorporates in N. J.

The Crescent Brick Co., operating a plant at Eatontown, N. J., for the manufacture of fire brick, has filed articles of incorporation with a capital of \$150,000, for proposed expansion in operation. The directors of the company include Frederick A. Ross, Lorenz L. Brosnan and John T. Egan.

Now Installing Steam Drying System

There is little to report from the Hackensack, N. J., brick yards. The majority of these plants, of outdoor type, discontinued production some months ago, and are now awaiting the turn of spring for the inauguration of 1920 manufacturing activities. Stocks have reached rather a low ebb, for the call for material from this section has been strong from the Newark, Passaic and Paterson districts, as well as from other sections. An item of more than passing importance is the installation of a steam drying system at the brick yard of Walter C. Shultz in this district. Work on the dryer is now under way, and it is expected to have it ready for service at an early date. This steam drying system will be among the first to be installed in this district, and under the efficient operation as expected, may be a forerunner of the construction of similar plants at other local yards. Good common brick is now selling for around \$24 a thousand at the yards at Hackensack, with slight fluctuation either way, depending on the grade of material.

To Make Brick and Tile As a By-Product

Construction work is under way on a large plant on the Raritan River, near New Brunswick, N. J., to manufacture brick and tile products as a by-product of a direct line of manufacture. The works will be built and operated by the Eastern Potash Corporation, 120 Broadway, New York, and will represent an investment of several hundred thousand dollars. A total of fourteen buildings will be constructed, comprising main potash plant, mechanical works, machine shop, 100 by 200 feet, steam operated electric power plant and other buildings. The power plant will be provided with water tube boilers and steam turbines. A large kiln 200 by 280 feet, with a height of 42 feet, will be constructed. The daily output at the plant will cover a variety of products, including potash salts, gasoline, green sand residue and brick. In regard to the latter, it is proposed to develop an output of about 1,000,000 brick a week. The corporation has acquired extensive green sand deposits at Eatontown, N. J., while in the northern part of the state, a large deposit of high-grade calcium lime rock has been secured. For the handling of materials at the plant a 10-ton bridge crane will be constructed. The construction work and installation of equipment at the plant is in charge of E. L. Blood, engineer.

Rollin's Barium Carbonate

"We find that the use of Barium not only entirely eliminates the scum caused by sulphates, but deeper and richer colors result than would be expected." So writes a clay products company in Kentucky.

It is obvious to any clay products manufacturer that Barium Carbonate added to the pug mill or to the dry pan will produce brick and tile that command a higher price. It will build up more business than an inferior product which is "off color" and marred by white streaks.

Barium Carbonate makes the salt glaze stick to sewer pipe.

We can show you how the appearance of your ware can be improved, and can give you names of clay concerns who are profiting today by the use of Barium.

Write Us NOW

Rollin Chemical Corp.

EQUITABLE BUILDING

120 Broadway, New York City

Newark Brick Men Kept Active

Newark, N. J., is going forward in the matter of construction operations in a firm, substantial manner. Real winter is not having the demoralizing effect that might ordinarily be anticipated, and the volume of plans filed for new work tells the story of just what is going on. During the first week in February the valuation of the permits reached \$236,872, while in the week following, the total dropped to \$108,154. The bulk of the operations covers building of brick and other fireproof construction, with the burned clay products of all kinds well in the lead. Industrial work in this city is reaching a high-water mark, and some of the important projects are well worth noting. The Murray Motor Car Co., formerly of Pittsburgh, Pa., has arranged for the construction of a new brick plant on Frelinghuysen Avenue to cost about \$500,000; John Campbell & Co. will build a number of brick additions at their chemical plant on Plum Point Lane, to cost about \$135,000; Clark & Co., operating a woodworking plant on Rose Street, will build a three-story brick addition to cost approximately \$100,000. As can be imagined, with work of this extent coming along, the local brick and material men are experiencing active times and the coming months will show still greater activity.

N. J. Prices Holding Firm

The demand for common brick continues at a high point in New Jersey and the recent raise in prices has seemingly had but little effect upon the call—brick is needed and brick must be had. Prices in northern New Jersey hold firm at around \$30 per thousand, delivered on the job, and stocks are none too plentiful to take care of the requirements even at this figure. An increase in price before the winter is over would not be entirely unexpected. At Trenton and vicinity, the prevailing figure is around \$22 a thousand at the yard, with delivery ranging from \$2 to \$3 extra. In the southern part of the state, a price of about \$27 is being quoted, and for exceptionally good material a few dollars higher. Face brick holds well in the matter of demand, but with reduced shipments being received from the different Pennsylvania plants, there is not any extensive variety from which to select. The price maintains firm at from \$45 to \$50 a thousand for good grade stocks, with still higher quotations for very choice selections. Other clay products show no lessening in demand, keeping up a good pace under the leadership of brick. Clay hollow building tile, partition tile, drain tile and pipe are among the specialties in active call, with prices holding very firm; advances are indicated in certain commodities. Fire brick is operating under an active call, with price ranging around \$67 to \$72 in the different communities.

Plant Extension and Factory Betterments Are Order of the Day in N. J.

With the severe winter weather in the East during the past fortnight, actual construction work in New Jersey has slackened a little. This is to be expected, for with traction and other transportation tied up, even to get materials to a job is a difficult matter, let alone the inclement weather barrier to the labor end. This letup is seasonal only—that is sure; the spirit to build and go ahead in the right way is still prevalent in all parts of the state, and architects and engineers are still as busy as ever. It is just a lull before another "big storm" of building projects, and when spring looms closer, the activity is

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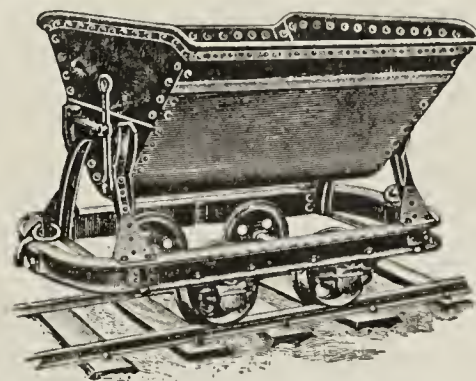
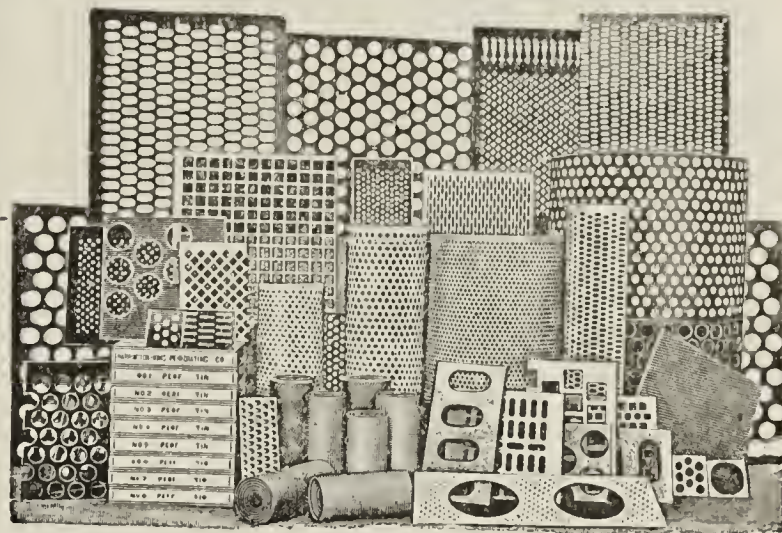
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Durability and Satisfaction

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Profit by Our 60 Years' Experience

For 60 years we have been building cars and perfecting their design.

This constant improvement of our product is saving valuable time and labor in brick and clay plants that are using Biehl Cars.

May we explain how we can do the same for you? Ask for prices, and copy of catalog No. 8c.

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Complete Drying Equipment
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likely to be unprecedented. Reports from the different cities in the state are most encouraging, Newark, Trenton, Paterson, Jersey City and Hoboken, other points in northern New Jersey, and in the southern section of the state, show conclusively that millions of dollars in new construction is in sight. The work has grown to a point about equally divided between housing and industrial operations, and building of the latter character is coming along in fine style. New plants, plant extensions and factory betterments are the order of the day in the different industrial centers and a heavy call is being made on the material dealers to supply the demand. Trenton is one of the cities that is showing more than ordinary enterprise in new construction; with the new Stacy-Trent Hotel building under way; the B. F. Keith interests have acquired property on West State Street, for the construction of a new \$300,000 theater; a number of the rubber plants are building additions, including the Joseph Stokes Rubber Co., while the electrical porcelain companies are also active with new plant additions. Almost similar conditions can be found in one or two of the other important municipalities, and all in all, there is little occasion for complaint among the building fraternity in New Jersey.

Building Extension to Plant

The New York Architectural Terra Cotta Co., Vernon Avenue, Long Island City, N. Y., has had plans prepared for a 1½-story, brick addition to its plant on Vernon Avenue, near Harris Avenue, for increased operations. The structure will be 33 by 85 feet, and will form a side extension to an existing building.

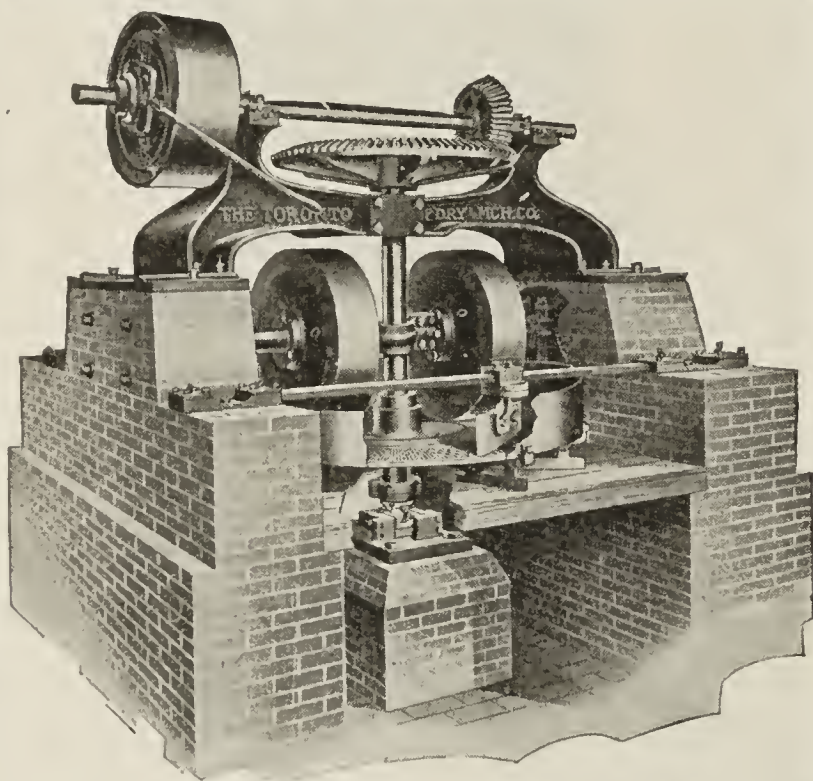
Face Brick Prices Unsteady

In discussing the face brick situation, the Hay-Walker Brick Co., New York, one of the largest dealers of high-grade material of this character in the city, says that authentic prices these days are practically impossible, owing to the almost daily fluctuations in the quotations. The market which was rather unsettled during the last months of 1919, is assuming a better status, and large orders are anticipated with the turn of the spring season. Orders have slackened at the present time, as to be expected under the extreme winter season. This company does a large business in bulk orders, with usual range running 100,000 to 300,000 brick and over per job.

Good Deliveries to N. Y. Market Not Expected Until Almost Summer

The brick market in New York has been experiencing a very quiet fortnight; there have been no deliveries of material from up-river points, and sales have been at the same status—none. With slow demand, prices hold at the same level as recorded in the February 10 issue of *Brick and Clay Record*, or \$25 in cargo lots alongside dock. Even with this trend of no sales, there have been rumors that the price would mount to \$30 wholesale within a short time, but this does not seem likely to come to pass; it would mean brick at about \$35 delivered on the job, for dealers at the present time are asking slightly over \$30. There is a good call for second hand brick, with prevailing quotation of \$45 per load of 3,000 delivered on site. Here again, it is said that a price of \$50 will soon be in order, but the statement does not seem justified. New York to all general appearances has practically reached

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For Grinding Wet, Semi-Dry and Dry materials. Made in sizes adopted by the best judges. We are in position to solve your grinding problems.

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8, 9 AND 10 FOOT PANS.**

Write for Descriptive matter and prices on Pans Also Bulletins on Sewer Pipe and Tile Presses, Elevating and Conveying Machinery, Trucks, Barrows and other equipment for the clay products manufacturer.

THE TORONTO FOUNDRY & MACHINE CO.
Toronto, Ohio

the peak point in brick prices. Things are moving very slow at the Hudson River yards; the bad weather has proved a serious handicap to the all-season yards in this section, and of the seasonal plants—there's little doing. With the advent of spring, it is expected that a good quantity of material will find its way to the New York market, altho it is stated by those who apparently know, that under present labor conditions really good deliveries cannot be looked for until almost summer.

Staggering Operations in View for Spring

The daily press thruout the country has been telling the story of New York's plight during the past two weeks; in a nutshell—"snowed in." With this situation, it could hardly be expected that building in the sense of actual breaking of ground would thrive, and a serious set-back was naturally in order. At the same time, severe weather is no bar to making plans, and this is what has been going on to an exceptionally heavy extent. Again, the realty market indicates the pulse of things, and to show the "boom" in this line, one of the well-known concerns recently closed sales aggregating \$10,000,000 in a single day. With the hopes that "spring is just around the corner," the operations in view for this favorable building season are nothing short of staggering. Hotels, residences, factories, theaters and numerous other structures are in view, with the work involving millions and millions of dollars. The one "bad spot" is the building material market and the shortage in basic commodities that is threatened shows no evidence of dispelling—rather, it is increasing; the outlook is not any too bright, either, for shipments much reduced over the general requirements are the order of the day at the present time. The local labor situation is rather "standing still," but hopes are expressed for a righting of conditions at an early date. The uncertainty of the situation as regards labor and prices of materials is bringing about an attitude on the part of builders to give quotations on a "cost-plus" basis in order to be sure of coming out "whole" on the job; such a plan does not meet with entire favor on the part of those planning to build, for the indefinite factor of cost is not one to smooth over difficulties. The resulting effect is shown on mortgage loans and other borrowed funds for construction enterprises; there is a tightening of the market in this respect. There is a good deal of activity in the Brooklyn residential sections, and large blocks of new dwellings are well under way. This borough is strong in the call for building supplies, and considerable shipments arriving in the Greater City are moving to this locality.

North Carolina New Incorporations

The Goldston (N. C.) Brick Co. has been incorporated with \$50,000 authorized capital, by E. M., R. L., and C. J. Goldston, all of Goldston, N. C.

George M. Sherwood Brick Co. has been incorporated at Goldsboro, N. C., with a capital of \$25,000, by George M. Norwood, A. H. Howell and George A. Norwood, all of Goldsboro.

Ships 160,800 Lb. Order to Carey

The Alliance (Ohio) Brick Co. recently shipped a carload of material weighing 160,800 pounds to Carey, Ohio, the contents of the car being rug brick to be used in the erection of an imposing Catholic building at that place.

WATERBURY



A safe rule to follow

for the safe working load on wire rope is to figure on one-fifth to one-seventh of its ultimate strength—and to get the best wear from it, sheaves not less than thirty times the diameter of the rope. A good rope deserves good treatment. Waterbury Wire Rope, like every other Waterbury rope, is the criterion of its class, because of the quality of material and workmanship which has always distinguished Waterbury rope. In the 220-page Waterbury Rope Handbook there is all the data on all kinds of rope—wire and fibre—which any user or buyer of rope could wish to know. A copy is yours for the asking.

WATERBURY COMPANY 63 PARK ROW, NEW YORK

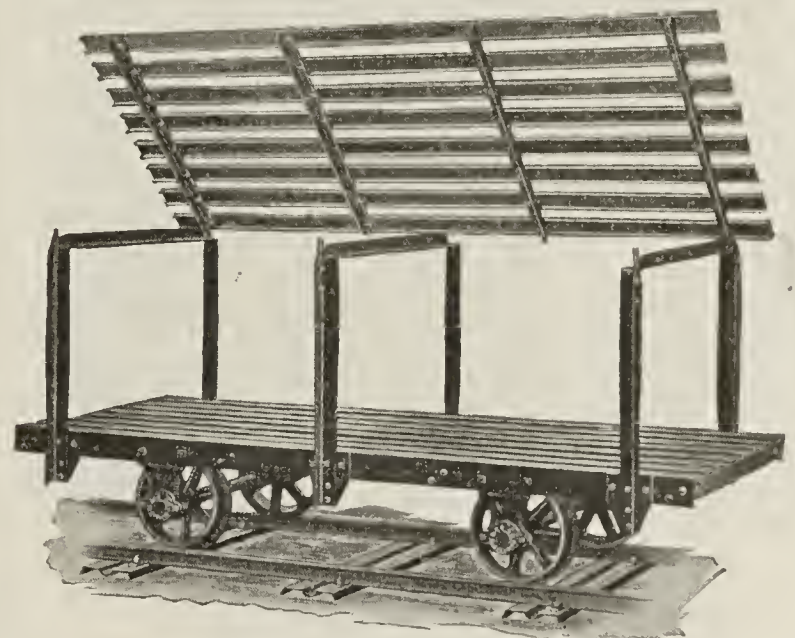
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NEW ORLEANS

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Lakewood Double Deck Car No. 167

The Robinson—LAKEWOOD LINE—
Dryer Cars; correctly designed, correctly
built, correctly sold.

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Stove Rooms and Mangles for Clay and Porcelain

are designed for individual plants.

Individually designed dryers result in greater uniformity of drying and greater uniformity of shrinkage—better ware.

They reduce floor space required. They reduce the number of moulds, labor, etc., from 50% to 75%. An equally large reduction in drying time.



Delivery End of Automatic Stove Room,
Buffalo Pottery, Buffalo, N. Y.

There are many other advantages of our installations which we would like to have an opportunity of explaining. Let our engineering department help you with advice and suggestions. No obligation.

Illustrated Circulars will be sent you on request

Automatic and Truck Systems

The Philadelphia Drying Machinery Co.

Stokley St., above Westmoreland

Philadelphia, Pa.

The Ohio Highway Commission will open bids February 27th for a number of road improvement jobs in various counties. In the list are brick jobs as follows: Cuyahoga County, 61 miles; Guernsey County, 2 miles; Hamilton County, 2.72 miles; Hamilton County, 2.59 miles.

Secures Large Terra Cotta Order

R. L. Watson, Columbus, central Ohio representative of the Northwestern Terra Cotta Co., has secured a contract for \$12,000 terra cotta for the MacGregor High School Building, at Canton, Ohio. The general contract for the erection of the building was awarded to R. H. Evans & Co., of Columbus.

To Lay Paving Brick on Stone Rolled Base

The Ohio Paving Brick Manufacturers' Association has started a campaign to lay brick paving on stone-rolled base, the stone to be secured nearby along the road to be improved. It is figured that if this is done and the engineers in charge provide for that sort of base, fully three-fifths of the railroad transportation will be avoided. As the car shortage is now the principal hindrance to an active demand for paving brick, this it is believed will permit more road improvement work to go forward this year.

Central Ohio Common Brick Plants Oversold

A representative of a large automobile concern of Detroit was in Columbus recently endeavoring to purchase 4,000,000 common brick. There is quite a shortage of common brick in Detroit and the same is true in Columbus and central Ohio. All common brick producers in central Ohio are oversold and are unable to fill their orders. Common brick are now selling from \$21 to \$23 delivered on the job and indications point to higher prices in the near future. The demand for common brick is so strong that some of the paving brick plants in the southern part of Ohio are preparing to change to the manufacture of common brick.

Restricted to 25% of Normal Car Supply

The face brick trade in Columbus and the Hocking Valley section is now entirely at the mercy of the car supply. Cars are getting shorter and shorter and many of the factories are restricted to about 25 per cent. of normal in shipping facilities. No immediate hope for improvement in shipping is held out and as a consequence trade is being affected. But many building projects are still on the tapis and it is believed quite a few will go forward. Demand for face brick is still good and local concerns are booking many orders to be shipped as soon as possible when the weather conditions permit. Prices for face brick are about 100 per cent. higher than before the war.

Cincinnati Activities Take Upward Trend

A review of the month of January shows that building activities in Cincinnati have taken upward trend and that a building boom is confidently looked for during the coming months by contractors and material manufacturers, especially those engaged in the manufacture of brick. A report compiled recently shows that during the past month there were 837 building permits issued in the building commissioner's office, involving construction to the amount of \$1,618,660, the greater part of which calls for brick material.

The number of permits and the total amount involved more than trebled the report for January, 1919, when building was practically at a standstill. Among the larger permits applied for during the month were those of the Board of Education for a new \$600,000 school building, the Rollman Sons Co., which will erect a new twelve story structure, as well as the Baldwin Piano Co., which has let a contract for a million dollar factory adjoining its present building here, and the Atlas Bank for a ten story building.

Will Operate Pittsburgh Tile Co.'s Plant

The five kiln plant of the Pittsburgh Tile Co., at East Liverpool, Ohio, which has been idle for almost a year, will be placed in operation at an early date. New York interests have inspected the property and have agreed with the present owners, R. W. Evans and associates, who live in Pittsburgh, on the purchase of the works. It is possible that the deal will be consummated within the next few weeks. The plant was closed May, 1919 and has not since been operated. None of the machinery has been removed and the place can be put in operation quickly. It was last operated in the manufacture of promenade tile. The building is in good condition also the kilns. It is understood that the interests negotiating for the plant will engage in the manufacture of tapestry brick. The present holdings of the company include two clay mines, which have entries not far distant and also a shale bank. Before suspending operating the plant employed 50 men. It had a lot of stock on hand when operations ceased.

Blair Co. Builds \$7,500 Barge

The plant of the Blair Brick Co., located at Blairville, Ohio, about 17 miles east of Cincinnati on the Ohio River, which, owing to war conditions, has been shut down for the past three years, is about to be reopened to its full capacity. Considerable money has been spent on improvements and in renovating the buildings and installing new machinery. Steam shovels and kilns as well as drying rooms and other departments have been repaired and put in first-class condition. The total expenditure is estimated at a trifle more than \$25,000.

The company, which is now under the management of J. M. Stoner, who is also president of the Cincinnati Clay Products Co., has built one new barge at a cost of \$7,500 and purchased another at the same price which will be used as a means of transportation for the output of the plant. The brick will be carried to points of distribution along the Ohio River. According to Mr. Stoner, the company has stored at the plant over a million and a half brick which are to be floated as soon as the barges are ready for service, and delivered to contractors.

Ohio Approves Planning Law

The bill to grant to municipalities in Ohio police powers to regulate building operations, known as the planning law, fathered by Representative Morris, of Cincinnati, has been approved by Governor Cox and will soon become operative. The bill provides that any municipality in the state may appoint a planning commission to frame and adopt regulations for dividing the municipality into zones or districts for the limitation of building with reference to height, bulk, location and the uses to which the buildings are to be placed. The bill designs to enforce by law restrictions in residence districts heretofore attempted only thru contract. The law gives the city authorities the



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ELECTRIC PYROMETERS

The advantage of knowing the temperatures in Brick and Pottery Kilns is self evident. Bristol's Pyrometers are especially designed to supply this information.

The instruments are made in both Indicating and Recording types, for temperatures up to 3000° F. They may be used singly or in combination. For the higher temperatures such as maintained in Brick Kiln, the High Resistance Type, Indicator Model 319, or Recorder Model 437, as illustrated, are particularly well adapted.

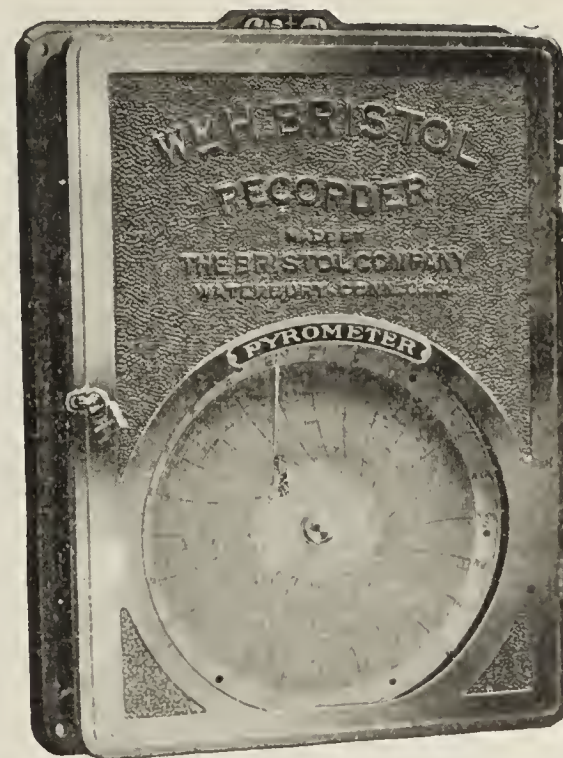
The direct reading feature is an important advantage in Bristol's Pyrometers. This is possible only, because of the new Patented Automatic Internal Cold End Compensator furnished exclusively with this make; and which eliminates completely the usual cold end error.

Bristol's Pyrometers have a reputation earned by many years of service.

Let our Engineers write specifications and quote on your pyrometer equipment. Get copy of Bulletin AE-274.

The Bristol Company

Waterbury, Conn.



"The S S S Special" Automatic Soft Mud Brick Machine



WE manufacture the most complete line of Soft Mud Brick Machinery in the world and can meet the requirements of any size yard, from the smallest to the largest. Let us quote you on your new machinery.

The Arnold-Creager Co.
New London, Ohio

power to say how much of a lot can be used for the building, the distance from the lot line, area and dimensions of courts, yards and other open spaces, where factories can be erected and also where apartment houses can be built. Councils of any municipality are empowered to create a planning commission to make recommendations on these regulations.

To Use Electrically Vibrated Screen on Cleveland Brick & Clay Co.'s New Plant

Unique in many ways will be the new plant of the Cleveland Brick & Clay Co., now under construction in the southeastern section of Cleveland, Ohio. Foremost among the innovations to be installed in the way of equipment will be a hummer electrically vibrated screen. This will be the first time in the history of the clay products industry in this section of the country that such a device has been used, altho it has been tried out in cement and other building materials operations.

In the opinion of A. L. Hendershot, secretary-treasurer of the company, a more uniform product for the manufacture of paving brick, in which this firm specializes, will be obtained. There will be two such machines installed at the new plant. Other new equipment will be in keeping with this device, all looking toward greater production and saving of labor. A feature of the new equipment will be that it can be converted easily so as to produce either building or paving brick, as the demand warrants. From present indications the new plant will be ready for operation not later than April 15.

Lighting Device Feature of Enlarged Display Room at Queisser Offices

With the addition of several new lines with which to open the spring season, the R. L. Queisser Co. has enlarged its display room and added many more new panels. A feature of the new room is the installation of a lighting device that comes as near to real day light as any device yet produced. Among new lines that will be introduced here is the Hocking Valley salt glaze of light shade, which will make its initial showing in the interior of a new sub-station being built by the Cleveland Electric Illuminating Co. at the Foot of East 70th Street. Specials of the same variety will be used to cap the walls of this plant. The material has been selected because of its ease of cleaning, and the shade of color is such as to make all equipment in the plant stand out distinctly. Another new line will be the Carlisle-Labold fire clay and shale brick.

Among unusual contracts recently closed by the Queisser interests is that for the Hawken Boys School, which will use Star Colonial Gonic Old English type, and another deal for 200,000 for the interior and exterior of the city disposal plant, now under construction at the foot of East 140th Street.

Queen City Plant Making Extensive Improvements and Additions

Ground was broken recently by the Queen City Shale Brick Co. for an extensive addition to its factory at the corner of Shadwell and Northside avenues, Cincinnati. It is estimated that approximately \$20,000 will be spent by the company for the improvement, consisting of two new drying tunnels and one kiln.

The company took over the old plant of the Andrews Shale Brick Co., about seven months after that concern went into

bankruptcy in 1917, and have had considerable success under the management of E. A. Knor, secretary and treasurer.

The new drying tunnels will be 105 feet long by 5½ feet wide and the new kiln 74 feet long by 22 feet wide, and will increase the production of the company by 5000 to 6000 brick per day, bringing its total output to between 15,000 and 17,000 brick per day.

A new railroad switch has recently been installed which will greatly facilitate the shipping department of the concern.

The management is very optimistic and expects to transact a greater volume of business in 1920 than in any preceding year. The company is already behind in its shipments and new orders are constantly flowing in which will be taken care of as soon as the addition is completed.

Greater Cooperation Required in Brick Industry to Secure Much Needed Cars

In the belief that the car shortage is the key to the entire success of the clay products business in the Cleveland, Ohio, district for this coming spring, an effort is being made by R. L. Queisser, Jr., vice-president and general manager of the R. L. Queisser Co., for greater unity of cooperation by brick interests toward obtaining additional cars to bring the material from manufacturing plants to distributing points in the Cleveland territory.

That such a move will be successful in making Cleveland recognized by the United States Railroad Administration, Mr. Queisser points out, is seen in the results obtained by his firm single handed. In data submitted to Washington, it is shown that the industrial activity of the Cleveland section is hampered because the material is not coming forward from manufacturers fast enough. The result has been that manufacturers represented by the Queisser interests in Cleveland write in lately advising that they are getting a more liberal supply of cars; and this is borne out still further by the arrival of more material in the last week or so than has been obtained in any month since the severe weather set in.

Embargoes still are in effect, however, notably east of Buffalo and west of Toledo, and this has hampered deliveries, altho the latest break in weather is expected to make for early release of these restrictions.

Orders for face brick in the Cleveland district continue to pile up upon dealers and distributors. At the Queisser establishment for example, there is a total of about 1,500,000 face brick booked and other firms report a like proportionate demand upon their stocks.

Charters Granted South Carolina Companies

A commission has been granted the Enterprise Brick Co., of Johnsonville, S. C., to manufacture and sell brick. The proposed capital is \$10,000 and the incorporators are W. J. Huggins and J. W. Williams, of Johnsonville, and A. R. Lane, of Mullins.

M. E. Gettys, William Gettys and V. I. Spurgeon have formed a new brick company at Gaffney, S. C., which will have a capacity of 60,000 brick per day. The plant will be located on Broad River, not far from the site of the McCraw Brick Co., recently organized. Machinery will be installed and the manufacture of brick commenced shortly, it is stated.

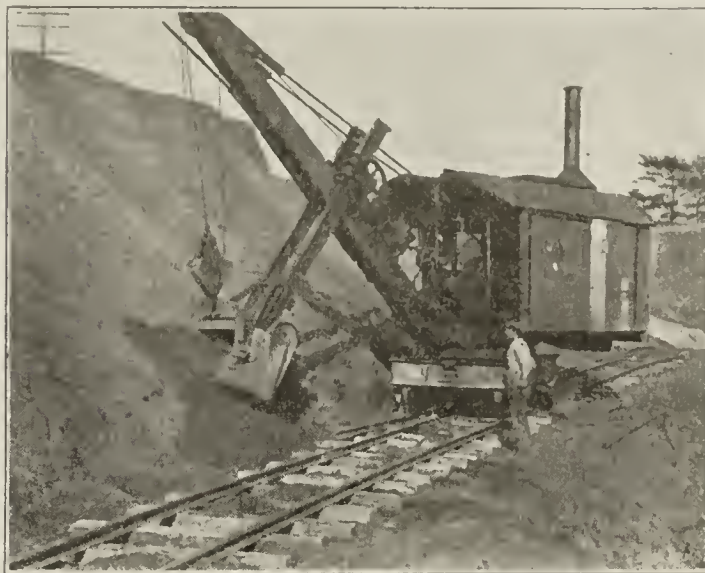
Will Manufacture Fire Brick at Scranton

The Pennsylvania Refractories Co., Scranton, Pa., has been organized with a capital of \$75,000 to manufacture fire brick and other high grade refractory materials. F. W. Wolterton heads the company.

BUCYRUS

"We cannot tell you just how much we have saved by using the steam shovel, but we know that but for it, we would be out of business."

Chas. A. Bloomfield.
Treas. and Mgr.



The Bloomfield Clay Co. of Metuchen, N. J., has been using an 18-B

BUCYRUS REVOLVING SHOVEL

for the past six years. During this period it has been used for stripping 35 feet of overburden from the clay deposits and at times for mining the clay and building a spur railroad. It has often loaded as high as 1500 cubic yards into Koppel cars in 10 hours. Its operation has been steady and reliable. Few repairs have been required.

The above statement of Mr. C. A. Bloomfield tells the story.

Let our representative look over your property and advise what a BUCYRUS can save you.

14-B— $\frac{2}{3}$ yd. (level full) $\frac{3}{4}$ yd. (full)	18-B— $\frac{7}{8}$ yd. (level full) 1 yd. (full)
150-B—2½ yd. (level full) 2¾ yd. (full)	175-B—3½ yd. (level full) 4¼ yd. (full)
35-B—1½ yd. (level full) 1¾ yd. (full)	225-B—6 yd. (level full) 7 yd. (full)

Also all sizes of standard railroad type shovels and dragline excavators.

BUCYRUS COMPANY

SOUTH MILWAUKEE, WIS.

New York	Birmingham	Minneapolis
Denver	Portland, Ore.	San Francisco
Chicago	Cleveland	Salt Lake City

(188)

Solid
Woven



For
Transmission
and
Conveying

ECONOMIZE !!!

Plug up those big power leaks in your plant with Stanley Belting.

Stanley is so constructed that it delivers all of the load without the usual loss in slippage. Its special weave results in unusual flexibility allowing a maximum arc of contact at reduced tension—yet there is no sacrifice of strength.

STANLEY BELTING CORPORATION

34 S. Clinton Street, Chicago



There is a sample here for you

Elects Directors at Annual Meeting

At the annual meeting of stock holders of the Hazelton (Pa.) Brick Co. the following directors were elected for the ensuing year; Harry Jacobs, B. F. Morse, Max Friedlander, George B. Markle, George Wilmot, T. E. Snyder, A. H. Mason and H. L. Campbell. Mr. Campbell is also general manager at the plant.

Car Shortage Hits Pittsburgh Hard

One or two brick men in Pittsburgh, Pa., who have been able, with much effort, to turn out almost enough of "back ups" to meet the demand, consider themselves in an enviable position. In almost all other directions, the production is falling lamentably behind the consumption, and a number of manufacturers are declining to quote figures on almost every type of business. One school building in Avalon, a suburb of Pittsburgh, is being held up because no one will undertake to deliver tile for it. The car supply is the crux of the situation, and it is proving so perplexing that no man holds hope in it. Most yards are doing well when they work at as great a percentage of capacity as 40 per cent.

Philadelphia Common Brick Market Active

The market for building materials at Philadelphia, Pa., continues at a substantial pace. There is a good call for burned clay products of all kinds, headed by common brick. The market for this latter commodity is active with prices ranging around \$23 per thousand for good grade common. Local stocks are seemingly sufficient for all demands and as this is a producing center, little fear is expressed for any shortage, even the spring building, as now anticipated, will reach a high plane. Face brick is not quite so active, due to a large extent thru the difficulty in securing material from the various Pennsylvania plants. At the same time, a number of good carload sales are recorded, with prices ranging around \$45 and \$50 per thousand, on siding. Hollow building tile and partition tile continue in fair demand, while fire brick is becoming more and more active in matter of call. Good No. 1 Standard fire brick is selling for about \$70 a thousand.

Plan \$20,000 Brick Plant at Cisco, Texas

E. W. Dolenger, of Cisco, Tex., and associates, plan to build a brick manufacturing plant at that place to cost approximately \$20,000. It will have a daily capacity of 10,000 brick.

What Our Canadian Friends Are Doing

L. W. McArthur is now superintendent of the National Brick Co.'s plant at Delson, Que.

W. H. Dwyer, Ltd., Ottawa, has been incorporated with a capital of \$1,000,000. Among other things, it is empowered to manufacture, buy, sell and deal in brick, tile, pipe, pottery, earthenware, cement and the like.

The Western Ontario Clay Workers' Association will meet in London, Ont., February 24th to 26th, inclusive. C. S. Parker, London, is president and Gilbert Armstrong, Fletcher, Ont., is secretary.

A meeting of the executives of the Canadian National Clay Products Association was held at the St. Charles Hotel, Toronto, on January 28th, with a full turnout. C. T. Currelly was entertained at dinner, after which the executives and a large number of the members visited the Royal Ontario Museum and were shown the handsome collection of pottery by Mr. Currelly.

MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories
and Detailed Announcements that Our Ad-
vertisers Believe Will Interest Our Readers

Bonnot Number 21

The Bonnot Co., of Canton, Ohio, have brought out their No. 21 hollow ware machine which particularly recommends itself because it is suitable for either brick or hollow ware. The user of this machine can change his product at any time the market demands and this change can be made quickly and at very low expense.

There are other important features, such as method of putting in liners, the construction of the cast iron bed plate and the main frame in one piece, and oil reservoir in the same casting. This machine is similar to the Bonnot No. 17, which has been a very popular machine with clay-products plant managers for many years, except that No. 21 incorporates many improvements.

* * *

New Publication

Portable belt conveyors for handling material horizontally or at a slight incline are described and illustrated in a new folder entitled "Type B Portable Belt Conveyors." This folder, just published by the Portable Machinery Co., Passaic, N. J., contains prices of these machines which are made with 16 in. wide belt and in standard stock sizes as follows: 12 ft. 6 in., 16 ft., 19 ft. 6 in., 23 ft., 26 ft. 6 in., 30 ft. 6 in. and 37 ft.

These machines, in addition to being used for handling brick, coal, sand, crushed stone, fertilizer, etc., are being used for conveying many manufactured products, bagged material such as cement, etc.

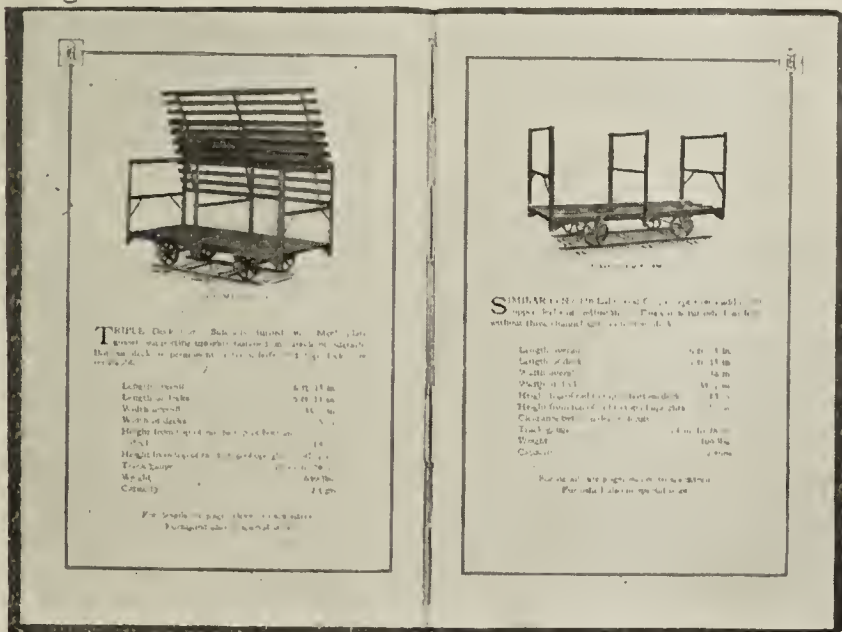
Used in series or in conjunction with fixed conveying systems, they afford a flexible, convenient and automatic conveying arrangement.

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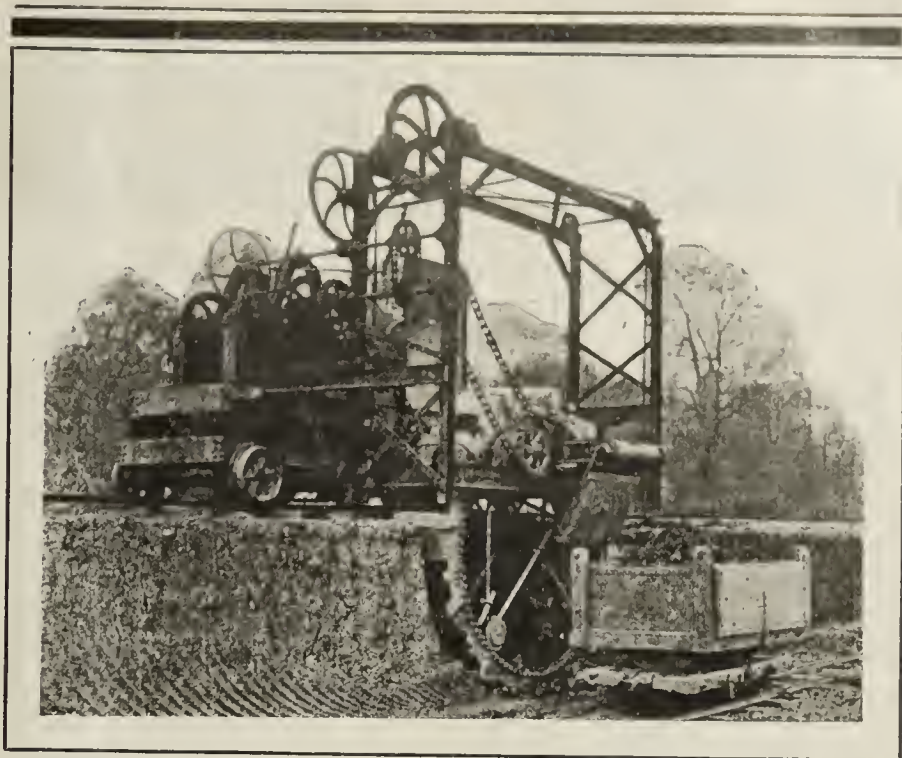
Frank H. Robinson Catalog

Catalog No. 12, illustrating and describing dryer cars and clayworking equipment, has just been issued by Frank H. Robinson, Fulton Building, Pittsburgh.

It is printed on heavy white enamel stock, using two colors of ink, the type matter and cuts being in black, while a neat border with the monogram "R" in the upper right hand corner, is printed in brown. The book is protected by



Two Pages of the Robinson Catalog



DIG MONEY With your Clay

by improving the quality of your brick or tile and cutting down on two very important costs, **LABOR** and **UPKEEP**. "The **BUCKEYE CLAY DIGGER** has given us most satisfactory service, improving the quality of our tile by thoroughly mixing the clay in the digging," writes one of our customers.

Another customer writes: "We use only one man and the digger on the outside of the plant and the upkeep of this machine is small. The only thing wearing out being the spades of the cutters. Our blacksmith relays these with steel again. Two sets of cutters will last a season. Oil and grease are extremely small items."

The new **BUCKEYE DIGGER**, Model C. M., in addition to its economical digging and thorough mixing has a combination conveyor that enables operator to change his discharge from pit to bank delivery alternately.

Let us tell you of the new **BUCKEYE**, Model C. M., in our little booklet "Digging for Profit."

Write today.

THE BUCKEYE-TRACTION DITCHER CO.
FINDLAY, OHIO



The Gateway to Better Things

BOOKS

The Master Workman has a Master Mind—he knows perfectly his own merit, and in order to increase his knowledge, he studies the methods of other men—in the only way that he can—in books. If you would be master of your work you must read and know what others know.

Bricks and Tiles.....	\$1.50
Brick Drying (English edition).....	1.00
Bricklaying, Rudiments of Practical.....	.75
Bricklaying System	3.00
Brick Work (Walker).....	.65
Brickwork and Masonry.....	3.00
Building Construction and Superintendence, Part 1, Masons' Work.....	6.00
Bungalows, Camps and Mountain Houses.....	2.00
Ceramic Industries—A Treatise On (E. Bourry).....	7.25
Clay and Pottery Industries.....	6.00
Clay Plant Construction and Operation.....	4.00
Clays: Their Occurrence, Properties and Uses....	5.00
Clayworker's Handbook.....	2.50
Clay-Working Problems.....	1.50
Directory of Dealers.....	.50
Engines and Boilers.....	1.00
Engineering for Land Drainage.....	2.50
Estimating Frame and Brick Houses.....	1.00
Finding and Stopping Waste in Modern Boiler Rooms, Vol. 2.....	1.00
Garages and Motor Boat Houses.....	2.00
Glazer's Book.....	1.25
How to Analyze Clay.....	2.00
How to Build Up Furnace Efficiency.....	1.00
Land Drainage	1.50
Manufacture of Roofing Tile, (English Edition).....	1.25
Manufacture of Roofing Tile (Worcester).....	.75
Modern Brickmaking.....	6.00
Notes on Pottery Clays.....	2.00
Observations on Pottery.....	.60
Pottery	1.25
Powdered Coal as a Fuel.....	3.00
Practical Brick and Tile Book.....	2.50
Practical Farm Drainage.....	1.60
Producer Gas and Gas Producers.....	4.00
Refractories and Furnaces.....	4.00
Rock Excavation, Handbook of.....	5.00
Scientific Industrial Efficiency.....	2.00
Scumming and Efflorescence.....	.50
Silos—Construction and Service.....	.60
Steam Power	2.50

Select the books that you want the most, and we'll send them to you postpaid upon receipt of price, but we can't send any books on approval. All foreign books subject to 15 per cent. import duty.

Address, Book Department,
Brick and Clay Record
 610 Federal Street, Chicago, Ill.

a heavy cover, and is of a size convenient for filing. The alphabetical index in the back makes it an easy matter to locate the particular information wanted.

The subjects covered are: Dryer Cars, Rack Cars, Pallets, Transfers, Kiln Bands, Clay Cars, Steel Rails and Portable Track, Richardson Repress and Dies, Pittsburgh Hot Air Dryer, Radiating Plate and Dryer Castings, Waste Heat Dryer, Brick and Tile Machinery, Elevators, Clay Feeders, Screens, Dry and Wet Pans, Rock and Shale Crushers, Brick and Tile Barrows, Wire Rope, General Supplies and Repairs.

Inasmuch as it is desired that the catalog have as wide distribution as possible in the industry, your request will bring a copy.

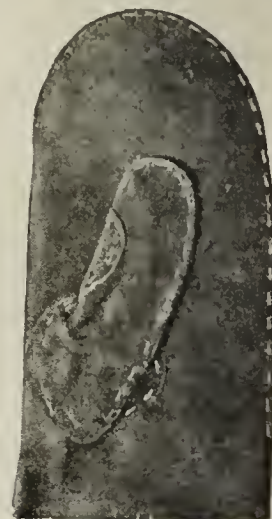
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Gloves That Last

Almost every clay plant superintendent has had the experience of watching his men trying to rig up some sort of a hand protection. The ordinary glove is not suitable for clay plant work because it does not last and the average clay plant worker has found it necessary to adopt a crude hand covering that does not cost him very much money.

The difficulty with this, however, is that the hand protector is so crude that it does not permit of the workman doing as much work as he otherwise could. He wastes not only the time required to make this hand protector but also time that would not be wasted if he could use something more practical.

It is not surprising therefore that so many clay plant superintendents have become so happy when they found the high quality gloves and mittens of different kinds made by the Des Moines Glove & Manufacturing Co., Des Moines, Ia. This company is specializing in real hand protectors for brick and tile plants and they are offering practical protectors that give remarkable service in the roughest kind of work. For instance they are offering a Tuftanned Kantrip Mitten made of heavy cow hide split and instead of common stitching the parts of the glove are held together by means of wire staples that are put on by machinery used by this company.



Tuftanned, Kantrip Mitten

Many of the clay plants where this company's products are being used purchase these gloves for the men and some of them selling them to the men at small profit or at cost. Even where they are sold at actual cost the company is the gainer, because of the time that is saved by the workmen who use gloves or mittens such as this company is making. A very liberal proposition is offered to any clay products plant to this effect. A sample dozen of each of two protectors will be sent with the understanding that one pair will be tried out by some one employe for two weeks. If at the end of this time the hand protector does not thoro satisfy, the company permits the return of the worn pair and also the other eleven, and there will be no charge. It is easy to understand that a company making a superior quality product is the only one that could make a proposition of this kind.

✱ ✱ ✱

Lower Insurance Rates

There isn't anything that is more attractive or interesting to the clay plant manager than a proposition that brings about a reduction of fire insurance rates. Of course such reduction must also be coincident with proper security, but a low rate is not of any value unless, in the case of fire, it is going to be possible to make collection on the loss without trouble.

Squire & Co., Inc., 85 John Street, New York City, have for several years been catering to the clay products industry, and have been able to effect very large savings for several of the more prominent clayworking companies. They are now offering their services to others in the industry, and they are in position to make a very attractive proposition. This is a matter that will unquestionably be of immense interest to the readers of *Brick and Clay Record*.

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BRICK and CLAY RECORD

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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups," to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To

decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

The Tie That Binds

THE CLAY PRODUCTS MANUFACTURER who chances these days to glance thru the national magazines as well as he who has been accustomed to reading "Leslies," "The Literary Digest," "The American Magazine," and so forth, cannot help but feel a thrill of pride at the impressive advertising which has been and is now appearing for paving brick, face brick and hollow building tile. These campaigns, together with that of the common brick manufacturers which will soon be inaugurated, are well calculated to place the various branches of the clay products manufacturing industry so advertising, upon a plane and basis which will command respect on the part of the public, architects, engineers, contractors, bankers and financiers.

There is one suggestion in connection with this national advertising which we would like to make. Individuals engaged in the clay products manufacturing industry have a common bond. They are engaged in the making of clay products—of BURNED CLAY ware.

In years gone by, this "tie that binds" has been recognized. Much has been made of it and rightly so. Now, our suggestion is this. In all advertising copy prepared by the various associations and their advertising agencies, would it not be well to include the two words "BURNED CLAY" somewhere in the advertisement? We think so. It is something which would not seriously interfere with the preparation of the copy nor the message which the advertisement is to carry. On the other hand, after a time, the words "BURNED CLAY" would be burned into the vision of every reader of our national magazines so that when he had decided to build with brick he might be led to use some hollow tile or floor or wall tile or vitrified, sanitary, salt-glazed sewer pipe, and having erected a house of burned clay it would not be a far step in con-

vincing him that roads of the same material are most satisfactory.

You can take this illustration, turn it around, twist it, substitute different clay products, and yet we believe that from whatever angle you view it the basic truth still holds, namely, that BURNED CLAY IS BEST.

* * *

Price Stabilization

ANNOUNCEMENT is made in a recent issue of a leading lumber journal that two large groups of manufacturers of western and northern woods have fixed prices which will remain in effect until June or July 1st. This is considered to be very welcome news to lumber retailers who have been complaining most bitterly of the instability of the market, advances having been made almost from day to day. Consumers no doubt will also be encouraged by this indicated trend of events.

While there seems to be little hope for a reduction in manufacturing costs of various clay products, and no one can be found who will guarantee against further increases, it has been recognized by many leading clay products manufacturers that there is an element in an unstable market which is likely to act as a boomerang on a more extended use of clay products in the present building boom.

"You are not getting enough for your brick," is the cry of some manufacturers and the tendency is to permit unprecedented demand to bid up prices until there seems to be no limit.

Mature judgment, however, would seem to counsel better control of prices, while the greatest wisdom, we believe, is in the direction of some sort of stabilization. Why would it not be good policy to estimate manufacturing costs for the next six months, set your price and let the public know they can get your brick for this figure for a period in question? It is something to be seriously considered.

Build Safely Not Wastefully

THE PRESSURE of a nation-wide housing shortage is manifesting itself in articles in the daily press. It is perfectly natural that this should be so. A condition that affects millions of people is certain sooner or later to get on the "front page."

All sorts of expedients are being suggested. Six families purchase the apartment building in which they live and become their own landlords. The fact is heralded far and wide. A real estate dealer taking his cue from this, offers land free of charge to any six families who will erect a six apartment building on that land within sixty days—of course it will be built of brick.

But the germ of haste is in the situation. We fear the tendency will be to build as speedily as possible in the spring. Now, when we talk about building quickly, we think of 2 x 4 studding, clapboard and wooden shingles. We feel that a wooden house, no matter how attractive it may look or how beautiful it may be painted, is at best temporary, but a wooden house put up quickly and hastily and cheaply is about the cheapest thing under the sun. A man may buy a cheap hat, become disgusted with it and throw it away and not suffer much loss. He can do likewise with a suit of clothes, and so forth. But after he has a cheap house he cannot throw it away and if he sells it he must realize a loss. He who sells it, is wise.

Haste makes waste. Take sufficient time and build with brick. If you cannot build with brick now, wait until you can and build right, build **safely**, build economically.

The same logic applies in the construction of roads. The public seems to be frantic to carry out a program such as was never dreamed of before, without sufficient labor and materials. Patience, judgment, wisdom and thrift are the watchwords of the hour. Let us apply them to home and road building.

* * *

Strengthen the Sales Force!

EXPERT ADVICE is to the effect that the country is now in a transition stage from a seller's market to a buyer's market. It is said that the millennium of order-taking is

nearly over and that salesmen will presently turn from allotments to sales. It is significant in this connection that in a recent canvass of the New York market it was discovered that there were really more building materials on hand than were anticipated. In other words, the dealers' shelves are probably not as bare as manufacturers would like to think.

In a seller's market the tendency, of course, is to neglect the sales department and permit it to disintegrate. This is always poor practice. It has been very aptly pointed out that in the purchasing and producing departments of a business, changes can be made quite promptly, but it takes a long time to develop adequate selling forces and trade relations.

The best advice now is for every clay products manufacturer to build up the distributing end of his business, even tho he is over-sold for the present or for months ahead.

Reference to a brief advance statement on page 526 of this issue with regard to the Federal Reserve Board's review of general business and financial conditions, will prove interesting. You will note that while the forecast is for a continuance of an active demand for products, the situation in some districts is such as to raise a question, and to lead to predictions of a possible reduction in business activity and prosperity. This does not mean that there are indications of an impending panic. Not at all! Rather is it a period of liquidation. Requests for credit are being scrutinized with more care. Banks are obliged to restrict loans to a certain extent. Manufacturers are establishing reserves for future advertising and many concerns are developing salesmen. As one gilt edge authority states, "No occasion for alarm—but every reason on earth for vigilance, if you want to be successful."

* * *

An Americanization Suggestion

ONE of the most interesting papers, from an educational point of view, presented at the recent Common Brick Manufacturers' Association Convention at Columbus, Ohio,

(Concluded on Page 561)

CERAMISTS LAUNCH

*Annual Convention in Philadelphia Is Well Attended As Well As Smooth
Appointed by R. T. Stull—Society Holds Separate Sessions for Professional
—Activity and Breadth of Scope Still on Upward Trend—R. H. Minton*

EVERYONE IS AGREED that the twenty-second annual meeting of the American Ceramic Society which was held at the Bellevue-Stratford Hotel, Philadelphia, on February 23, 24, 25 and 26, was the best arranged and smoothest running convention ever held by the society. Much credit is due to the local committee of which Frederick Stanger was general chairman and Wm. E. Saunders, W. H. Fulweiler, D. H. Applegate, Jr., C. A. Hall, George F. Pettinos, and John P. Goheen the other members, for the splendid arrangements and for the unusual efforts they made to see that everybody was taken care of. Hotel accommodations were of the very best ever accorded to the society in any of its meetings. Those who have visited the Bellevue-Stratford at one time or other know of the many splendid rooms at hand in which to hold meetings. These rooms were of great value to the society because it enabled all of the professional divisions to carry on their individual programs without interference or any handicap whatever.

MEETING WELL ATTENDED

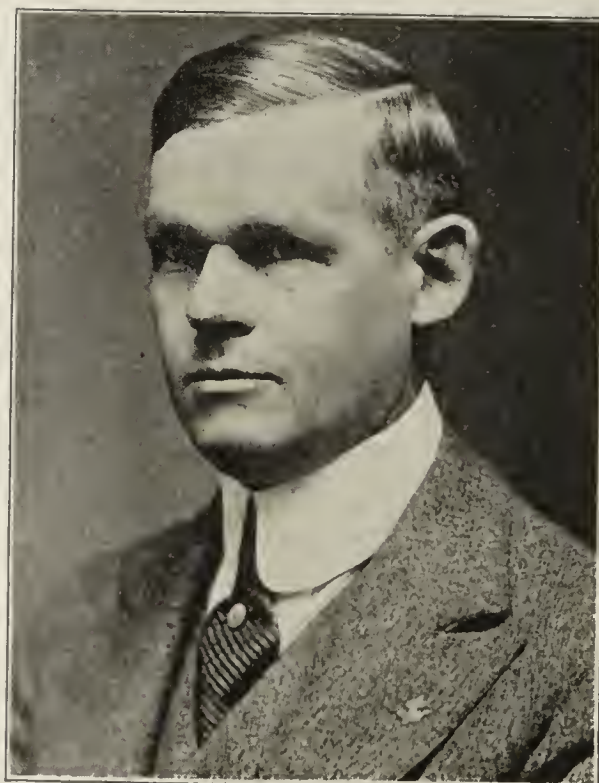
The weather at the time of the meeting was good and a large attendance of over 200 people was present to enjoy the entertaining features of the convention as well as to listen to the many valuable and instructive papers read at the different sessions which broadened everyone's knowledge on ceramic subjects. This year marked the beginning of the new departure in the annual convention, that of holding separate sessions for each professional division. All of the newly formed sections met simultaneously in the different meeting rooms of the hotel. A commendable feature at the convention which should not be overlooked is the fact that although tremendous progress has been made by the society during the past three years, there has been no let-up in enthusiasm and activity and it is still developing toward the goal of a society containing every prospective person as a member; doing a work of great service to the public as well as the industry in which it is the important factor; and serving as an intermediate for the collection and dissemination of instruction and data on ceramic subjects for its membership. Those men whose foresightedness, loyal enthusiasm and great sacrifice in time and effort is responsible for this marked growth and increase in scope and activity of the society, are beginning to see the fruits of their untiring efforts in the recent development of the society which has been unusual and marked but by no means complete yet. The future holds much to be done and the society has trusted the stewardship in the hands of a man who, like his predecessors, has contributed a great deal of his time to the organization. The society is certain that the continued growth of its activities is assured with R. H. Minton as its president. E. T. Montgomery has been chosen vice-president and should prove an able assistant to Mr. Minton. F. H. Riddle, who has been coming right up in the industry, has been elected as the new trustee to take the place of George H. Brown, who is automatically released from his duties on the board of trustees.

STULL URGES RESEARCH IN CLAY WORKING

President R. T. Stull who has just completed a very successful administration opened the meeting at ten o'clock Monday morning, February 23. Instead of following the custom of giving an annual address, Mr. Stull made a little departure from this traditional part on the program and read a paper on the need for technical research in the clay-working industry. He stated that of the \$500,000,000 worth of ceramic products manufactured in the United States each year, \$250,000,000 was the value of clay products and \$120,000,000 represented the value of brick manufactured. In other words, the value of brick manufactured in one year in this country represented about 24 per cent. of the value of all ceramic products and about 48 per cent. of all clay products. Thus it is emphasized that brick represents an important phase in the ceramic industry.

About 70 per cent. of the cost of production of brick is represented by fuel and labor. Thus any efforts taken toward reducing this cost by making research into this phase of the business is well worth while. Mr. Stull urged that this subject be given the attention it deserves.

He also pointed out the lack of development in clay machinery. The auger mill is much the same as it was forty years ago. Lamination needs to be overcome and there is room for a great amount of development in clay machinery. Neither has much effort been made to reduce the amount of



R. H. MINTON
President American Ceramic Society

DIVISION MEETINGS

*and Successfully Conducted, Thanks to Well Organized Local Committee
Divisions FOR THE FIRST TIME in the History of the Organization
elected President and E. T. Montgomery Vice-President for 1920*

labor required in the manufacturing process and the day will come, said Mr. Stull, when brick will be made and burned, untouched by human hands thruout the whole process of making.

CORPORATION TO CONDUCT EXPERIMENTS

To accomplish research along the lines suggested it would have to be done by either one of the following two methods: An enterprise which would be financed by a manufacturer or group of manufacturers who would control all patents and methods arising thru the research, or, the formation of a development corporation which would build an experimental plant to be placed under the direction of an expert ceramic engineer and all patents arising therefrom to be controlled by the corporation.

Following the reading of the above paper, the regular order of business was taken up. The minutes of the last meeting were referred to a committee of three for approval. The reports of the board of trustees and treasurer were made by the secretary. In the report of the board of trustees it was stated that a substantial increase in membership has been made, 227 associate and 21 corporation members being admitted thruout the year. A new departure was made in the handling of the annual convention in that a local committee was organized to carry on this work. Professional divisions organized at the last meeting have been doing good work and show considerable strength. The society was again

represented at the chemical exposition which was held in Chicago last year. The above gives very briefly the chief points touched upon by the report of the board of trustees.

MINTON GIVES REPORT ON PROGRAM

R. H. Minton then gave a report of the papers and program committee, which referred to the following matter: The committee had received the following recommendations from the preceding committee which it endeavored to carry out to the best of its ability:

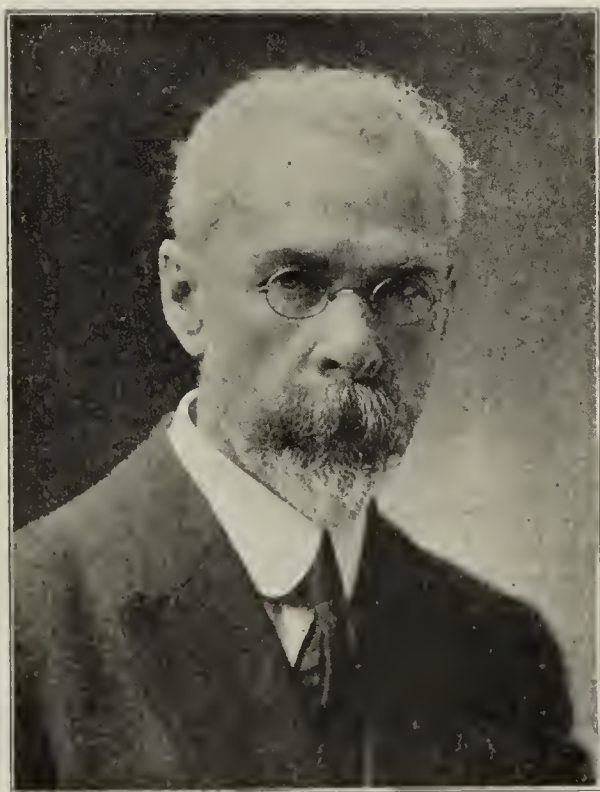
1. That the committee on program and papers be composed of secretaries or chairmen of the various divisions and local sections as well as members of institutional and government bureaus.
2. That the editor and publishing committee assume the work of obtaining papers for the journal.
3. That the committee attempt to shape the program for the annual meeting in the early part of the year.
4. That papers published previous to the annual meeting be read for discussion at the convention.
5. That the annual meeting be held the third or fourth week in February instead of the first week and that abstracts of papers to be read be in the hands of the committee by the first of the month.
6. That a special session be held at which a symposium on the construction and operation of car tunnel kilns be given.

The committee also reported some interesting figures as to the per cent. of the society membership which contributed papers. Starting with the year 1907, the per cent. of the entire membership that contributed papers to the annual meeting of that year and the per cent. of membership contributing papers each succeeding year is as follows: 12, 13, 13, 13, 13, 16, 14, 12, 14, 10, 8, 6, 4 and for the year 1920 about 6 per cent. Twenty members of the society contributed 40 per cent. of the total number of papers published thus far. Last year there were 58 papers presented at the meeting and this year the number was close to 140, 37 of which have already been published in the journal.

As recommendations for the committees to be appointed for the following year, it was suggested that: 1. A program be drawn up and the year's work be planned ahead and a sincere effort be made to adhere to it. 2. A monthly report be made by members of the committee and sent to the chairman on the first of the month. The chairman should then send a complete report to each member of the committee and to the board of trustees. 3. A discussion be held on factory practice, kilns, burning, etc. 4. The committee attempt to have authors make abstracts of their papers so that the committee may send them to selected members for discussion.

MAKE 20 PER CENT. GAIN IN MEMBERSHIP

The report of the membership committee was made by Frank H. Riddle, who was made chairman to take the place of R. C. Purdy, who resigned during the year as chairman of this committee. Mr. Riddle showed that the



CHARLES F. BINNS
Secretary American Ceramic Society

increase in membership had kept pace with previous years and read the figures for the past several years as follows: 1917, 537; 1918, 750; 1919, 1025, and 1920, 1228. The divisions, both professional and local, were very active in securing new members and Mr. Riddle suggested that the membership committees be made up of the chairman and one member in each division or in lines that may be forced into divisions. Every effort should be made to get more members among the heavy clay products manufacturers.

Among the other committees making reports was that of the committee on research and development. This committee is a war relic according to A. V. Bleininger who is chairman and who reported that the committee had worked out a scheme of ceramic fellowship of two classes. The fellowships established under the plan of the committee are for the purpose of promoting fundamental research in ceramics and in those branches of physics and chemistry underlying the field of a ceramic industry, and not for the solution of "works problems," that is, problems the only purpose of which is the discovery of a remedy for some difficulty in the manufacturing process or the production of an improved product.

TO ESTABLISH RESEARCH FELLOWSHIPS

Each fellowship established under this plan shall be described in the following terms: Research fellowship in ceramics, supported by John Doe and Co. There shall be two classes of fellowships as follows:

Class A: The stipend for this class of fellowships shall be \$800 for the first year and \$1,000 for the second and each subsequent year. A holder of this class of fellowship shall carry out his research work at a university and shall have the privilege of becoming a candidate for an advanced degree at that university, and of taking such advanced courses as may be necessary thereto.

Class B: The stipend for this class of fellowships shall be \$1,600 for the first year, \$1,800 for the second year and \$2,000 or more for subsequent years. The holder of one of this class of fellowships shall be a trained research worker and shall devote all of his time to the research work.

REPORTS OF OTHER COMMITTEES

The chairmen of the various professional divisions reported very good progress as to their particular organization.

A special committee of which Dr. E. W. Washburn was made chairman was appointed last year to arrive at some definition for the word "ceramic." There has been much

confusion as to the proper meaning of this word, some persons defining it within much narrower limits than others. The report of the committee was very commendable and went into the subject with the minutest detail. In fact, the report was really a classic itself and contained very interesting information as to the derivation of the word as well as to the history of its meaning. In the nineteenth century, it appears that the word was applied to decorated ware that was burned or baked. The Greeks used a term "Keramos" which meant potter, a term "Kera" which meant wax and "Keras" which referred to a horn drinking cup. "Keramos" was also a Sanskrit work which meant "to burn." The fundamental idea seemed to pertain to fire, and referred to the process rather than to the materials, which were secondary.

In forming a definition for the word it was considered that it would have to include those products formed by high temperature and made from earthy materials of which silicon or silicon oxide forms an important part. The definition would include: 1. All burned clay products. 2. Cementing materials. 3. All varieties of glass. 4. Enamel ware. 5. Refractories. 6. Abrasives. 7. Electrical and Thermal insulating products.

It was recommended that the Society should tentatively adopt the report of the committee and then send it to the English Ceramic Society for their consideration and after securing their comments adopt the definition derived at as the official definition of the word ceramics.

The afternoon session was given over to the reading of papers on general subjects and was known as the general session which everyone attended. During this session Dr. Carl Langenbeck, one of the pioneers and second president of the society, was introduced to the membership. It was also during this session that Dr. Bancroft, chairman of the Division of Chemistry and Chemical Technology of the National Research Council gave a short talk before the membership.

INNOVATION AT SECTION OF SESSION

Monday evening was devoted to the Section Q meeting and smoker. The feature of the evening was a short musical comedy play, on the order of a mock on the membership, especially on a few members to whom the Society's secretary has had to give considerable attention. The play was written by Miss Norah Binns, able assistant secretary of the American Ceramic Society, and daughter of the faithful secretary, Professor C. F. Binns, and was entitled, "A Day in the Office of the Secretary."



E. T. Montgomery Has Improved in Looks Considerably Since the Photo on the Left Was Taken. However, the New Vice-President of the American Ceramic Society Has Not Had a Photograph Taken of Himself More Recently. R. K. Hursh (On the Right) Has Again Been Entrusted with the Treasurership.



The various parts were taken by the following persons:
 Secretary—W. N. Reid; assistant secretary—J. B. Shaw.
 Mr. Shaw makes a very handsome (?) looking girl, but he betrayed his sex by several of his actions. We would suggest that he wear longer stockings next time and leave the advertising of his particular brand of garters to the manufacturers themselves. Office boy—Geo. Blumenthal, Jr.; Mr. Forrester—Louis Collin; Philip Dressler—Spicer Kenyon; A. V. Bleininger—Frank Lobaugh; Charles A. Bloomfield—Robert Sherwood.

CERAMIC ENGINEERS' SONG

There were several original and humorous songs sung in this play including the one below, which will probably be sung at future meetings of the Society:

Tune—Solomon Levi

Oh, we're Ceramic Engineers
 Our rep is based on ware,
 In whose production all that's required
 Is plenty of hot air.
 Our chemical ware is acid proof
 'Gainst anything you bet,
 Except in case of accident
 It happens to get wet.

Our paving brick are made for use
 Where traffic is severe,
 And never are known to fail to stand
 At least a half a year.
 Enamel and porcelain is our forte
 In tests of every kind,
 The Japs and Germans, English, French
 Are many years behind.

Our fire brick are so very fine,
 And stand the heat so well,
 You'll find when you pass to the other shore
 They're used in the walls of h—ll.
 And if those walls come tumbling down
 And crush your bony frame
 Just charge the account to A. C. S.
 Whose members are to blame.

Our optical glass is free from strain
 In it you'll find no striae,
 Unless you try to use the stuff
 It never harms the eye.
 Our table ware it beats Limoges,
 'Twill almost hold your stew,
 Until the pores begin to leak,
 And let the damn thing thru.

Oh, we're Ceramic Engineers,
 We're not so very neat,
 We never change our underwear,
 We never wash our feet.
 We wear our collars and cuffs for months,
 With grime and dirt they're smeared,
 Oh, we're the very scum of the earth,
 Ceramic Engineers.

SHOW MOVIES TAKEN IN CERAMIC FACTORIES

Besides the above play and community singing, there were shown motion pictures on glass tubing, electric light bulb

manufacture, porcelain insulator manufacture, and also a movie on Safety First. A buffet luncheon was also included in the evening's program.

On Tuesday the various professional divisions each held their own meeting in separate rooms. The terra cotta section had twenty-eight papers on its list, most of which were presented. The enamels division had ten papers on its list, and the discussion which followed their reading was very lively and interesting. The glass division had a very fine attendance at its sessions and there were about thirty-seven topics on the program for discussion in this division. The refractories division also had very many interesting topics discussed at its meetings, at which were listed twenty-four papers to be read and considered. A general program was also in progress during this time, most of the papers of which dealt with white ware manufacture.

PURDY VICTIM OF ARTIST AT BANQUET

The annual banquet took place on Tuesday evening, at which occasion an unusually delicious menu was served and good music played for the entertainment of the guests. A "sleight-of-hand" artist also performed to the amusement of the audience, which was especially amused when he managed to "pick" the watch of none other than our "sly" Mr. Purdy. The toast list contained two very excellent speakers, who held the attention of their audience with very inspiring and forceful addresses. The first speaker introduced by Toastmaster F. W. Walker of Beaver Falls, Pa., was Edward J. Cattell, city statistician of Philadelphia, whose amusing anecdotes at the beginning of his talk kept his listeners in continuous uproar. He told of the many industries in which Philadelphia leads the world, especially in the manufacture of hats, textiles and locomotives. He also spoke considerably on present day commercial ethics.

Calvin O. Althouse, director of the school of commerce, Central High School, Philadelphia, gave a very excellent address on business subjects and the need for proper training in the educational system of our country.

LIVE DISCUSSION ON TUNNEL KILNS

The program was continued on Wednesday morning with a discussion on the merits of continuous kilns, which was taken part in by a number of the members. Professor C. B. Harrop of the Ohio State University, Columbus, Ohio, stated that the five best features of the car tunnel kiln were, uniform quality of ware, economy of fuel, minimum labor costs, minimum construction costs, and low depreciation. He stated that there was practically no difference in fuel economy be-



R. T. Stull (On the Left)
 Under Whose Leadership
 During the Past Year, the
 Society Has Continued to
 Grow, and Frank H. Riddle
 (On the Right) Whose Ac-
 tivities in Behalf of the So-
 ciety Have Been Rewarded
 by Appointment to the
 Board of Trustees.



tween direct fired and muffle tunnel kilns. The chief problems still to be solved with tunnel kilns, he stated, were structural and operating. However, it was stated that the continuous car tunnel kiln is a great success even with these problems which when solved will give us the nearest to the ideal kiln that has even been hoped for.

He further asserted that a saving of about seventy per cent. in fuel could be effected in a continuous kiln as compared with periodic kilns.

Several of the users of car tunnel kilns read papers on their experiences with this equipment and in each case their reports have been very favorable to the kiln.

During the business session held in the afternoon of Wednesday, there was given a report by Chairman Barringer of the Publication Committee. He told of the progress of the Journal and announced that Homer F. Staley has succeeded George H. Brown, who resigned, as editor. It was also at this session that the appointment of committees for the forthcoming year was announced.

NEW COMMITTEES

The committee of rules will consist of A. S. Watts, chairman, R. L. Clare, R. K. Hursh, T. A. Klinefelter, J. B. Shaw.

Committee of Co-operation: E. W. Washburn, chairman, S. G. Burts, Frank S. Dunn, T. Poole Maynard, H. E. Maddock, W. E. Emley, J. W. Sanders, C. L. Sebring, G. A. Rankin, F. L. Steinhoff, D. F. Stevens, F. W. Walker, Jr.

Committee on Standards: M. F. Beecher, chairman, R. R. Danielson, E. E. Creighton, C. W. Berry, R. M. Howe, Hewitt Wilson, R. K. Hursh, C. B. Harrop, E. C. Hill, M. C. Booze, O. J. Whittemore.

Committee on Publication: L. E. Barringer, chairman, E. W. Tillotson, A. V. Bleininger, H. Ries, H. F. Staley.

Committee on Sections and Divisions: R. C. Purdy, C. C. Ashbaugh, Leslie Brown, G. D. Morris, F. B. Ortman, R. D. Landrum, A. T. Malin, F. A. Kirkpatrick, E. P. Poste, C. W. Parmelee, E. W. Tillotson.

Committee on Membership: F. H. Riddle, chairman, L. J. Frost, S. C. Linbarger, H. K. Kimble, Atholl McBean, Gail Truman, F. N. Rhead, T. A. Sant, August Staudt, S. R. Scholes, F. Stanger, D. F. Stevens, J. D. Whitmer, H. Schmidt.

Committee on Research and Development: A. V. Bleininger, chairman, George H. Brown, Wm. M. Clark, P. H.

Bates, J. S. Laird, Raymond M. Howe, R. T. Stull, R. B. Sosman, A. S. Watts, and E. W. Washburn.

ELEVATE LARGE LIST OF ASSOCIATES

At this session was announced the changing of one hundred and twenty-five members from associate to active membership. The result of the election of officers was also announced at this session. The following are the new executives:

R. H. Minton, of the General Ceramics Co., Metuchen, N. J., president.

E. T. Montgomery, of the Montgomery Porcelain Products Co., Franklin, Ohio, vice-president.

R. K. Hursh, of the University of Illinois, and Charles F. Binns, of Alfred, N. Y., succeed themselves as treasurer and secretary, respectively.

F. H. Riddle, director of research of the Jeffery-Dewitt Co., Detroit, Mich., was elected to the Board of Trustees to succeed George H. Brown, who is released automatically this year.

Upon taking office Mr. Minton spoke for a session to be held at the next annual meeting at which will be discussed general and practical problems relating to the ceramic industry. At this business session was also passed a resolution thanking the local committee for their splendid work in arranging the convention.

On Thursday a goodly number of the members stayed over to take in the inspection trips that were arranged. Two groups were formed, one of which visited the Abrasive Material Co., where the manufacture of grinding wheels was seen; the Philadelphia Textile Machinery Co., where drying machinery of various types was noticed; Conklin-Armstrong Co., where the manufacture of terra cotta was witnessed, and the Brown Instrument Co., where a trip thru the factory in which pyrometers are made, was taken.

The other group visited the O. W. Ketchum Terra Cotta Co. and the Baldwin Locomotive Works. In the afternoon both parties visited the Victor Talking Machine Co. at Camden, N. J., where they watched with interest the process of manufacturing Victrola records.



"You used to hate work."

"I hate it yet," replied Plodding Pete. "But I'm goin' to keep at it. If you get in the habit of loafin' now some member of the I. W. W. is liable to step up any minute an' call you 'brother'."



The One Hundred and Fifty-Seven Members and Guests Who Enjoyed the Delicious Menu, Splendid Entertainment and Delightful Speakers at the Annual Banquet.

URGES IMPROVEMENT *in* MECHANICAL OPERATION *of* REFRACTORY PLANTS

Backwardness in Mechanical Progress of Clay Plants an Outstanding Demerit in Industry—Author Suggests that Refractories Association Act Jointly in Experimental Work as They Have Done So Successfully With Regard to Research Fellowship at Mellon Institute

By J. Otto Trautwein

Paper Read at a Meeting of The Refractories Manufacturers' Association in Chicago, January 15

MEN WHOSE BUSINESS ACTIVITIES have brought them into close contact with the clayworking industry in its many branches are almost a unit in the expression of an opinion which bespeaks the backwardness of those who work in clay as compared to those who work in metals, in textiles, in paper, glass and leather—in fact, in industries too numerous to mention. Not that the men engaged in clayworking seem backward in their business instincts, but that their plants show little of the mechanical progress which marks the establishments which manufacture thousands of other commodities.

It has been said, for instance, that steel-making is largely an equipment industry—that is, that the installation of modern, labor-saving devices has been carried to such an extent that the high wages paid to the rollers and to other men employed in steelworking establishments is *earned* by these men, the equipment making it possible for the men to turn out a tonnage which shows a tremendous profit, even with a seemingly out-of-proportion wage scale.

It is useless to dwell on the lack of labor-saving equipment in branches of the clayworking industry in which you are not interested. The thing that is of interest to you, however, is what is being done in refractories manufacturing plants and how you can profit by that knowledge. In the first place, it probably will not be denied that a very small percentage of your plant—perhaps not more than twenty per cent.—can be accused of being up-to-date, even when compared to the average plant in the industry. And of this twenty per cent., probably not more than one-quarter can be said to be truly comparable to the best units in a score of other industries.

CONDITIONS IN INDUSTRY POINT TO GOOD DEMAND

Despite this fact, it will be claimed—and truly—that altho so large a proportion of refractories manufacturing plants are “back numbers” they have, almost without exception, made money for their owners. It may even be said that they have made money in times of slack demand as well as when the buyers of fire brick were offering premiums for prompt deliveries. There was enough capital in the refractories industry at the beginning of the war to finance a tremendous expansion, altho the years immediately preceding the war were not marked by exceptionally good selling prices.

If we could base our predictions for the future upon the facts recorded in the past (as Babson does) it would be very

easy to predict that with our present equipment—particularly as much of this equipment is of comparatively recent installation—still greater profits would be made during the period of reconstruction than in any of the years immediately preceding the war. Everything points to a good, healthy demand for fire brick in 1920. The low demand of last year, caused in part by the desire of the consumer to use his accumulated stock, by strikes in the steel industry and in the coal mines, all of these things now being matters of past history—has changed. Today we are rapidly approaching a seller's market, with better demand and better prices.

But predictions based on past conditions might lead us into very serious difficulties, did we not take into account a condition which today confronts us—a new condition which may well be called the man-hour and the man-dollar in relation to product.

Why are you limiting your quotations so that they hold good for only ten days or some similarly short period? Why are you specifying that deliveries must be made and taken before March 1st or some other near date? The answer is simple—you are afraid of the labor situation in your plants and in your mines.

LACK OF MECHANICAL EQUIPMENT VITAL

There was a time when brickyard labor was cheap and plentiful—when the main requisite was a strong back and a weak mind. But your labor is thinking today, if not with its own brains, then with the brains of someone who is doing the thinking for it. And your lack of mechanical progress is playing directly into the hands of those who will ask higher and higher wages and shorter and shorter hours, even tho the price at which you sell your product may not reflect this increased cost. You feel the present labor shortage and say that there is but little hope of improvement. If it becomes more acute your plants will be in the position of bidding against each other for what little labor there is. What better condition could a labor agitator ask?

And while protecting yourselves against the immediate loss attendant upon orders booked at present costs with deliveries made at times when costs are mounting, you are doing very little to protect yourselves against the mounting costs themselves. In this way you neither protect your own business nor do you protect those upon whom you are dependant for future business.

Associations of manufacturers are realizing that individual efforts to lessen labor turnover by means of bonus and profit-sharing plans—by group life insurance for employes, welfare work and—lest we forget—by higher wages than have ever before been paid in the industries so associated, while of temporary assistance in maintaining the working organizations, add to the cost of production without giving an adequate return. Worse than this, they frequently start a certain rivalry between plants located near to each other, and so incur increasing costs without an effect other than to encourage the men to seek employment in first one plant and then the other, until the “softest snap” is found and the highest wage taken in return for the least possible physical exertion.

LARGE LABOR RESERVE A MYTH

There is no denying the fact that industry in general is suffering from a shortage of producing-labor hours. And the man who can so equip his plant as to get out the same 9-inch equivalent per day, with a smaller number of employes than he previously used for the same output, is following the example of the sailor who takes a reef in his sails when the first gust of wind tells him of the approaching storm. The man who expects to continue employing the same number of men in the future as he has employed in the past is hoping that by some hitherto undiscovered process, he will be able to secure and hold a larger proportion of the labor then available in the industry than he has been able to secure and hold in the past. If he is going to bid for this labor, he must reckon with his competitor, whose needs are as great as his own. But if he makes up his mind to get along with less labor than he has employed in the past, he is releasing to his competitor, perhaps, a sufficient number of men to satisfy his competitor's needs, and so puts an end to wage demands caused by his competitor's frantic efforts to get enough labor to turn his wheels.

You, as an association, have given the clayworking industry an insight into what may be done by collective planning or, as it is sometimes called, by cooperation. Seeing the need of scientific research work in the refractories industry and realizing that what was being done in private laboratories was not available for the general progress of scientific methods, you generously endowed a Fellowship in the Mellon Institute of Industrial Research. How amply you have been repaid is a matter that is as familiar to you as it is to those who are, so to speak, on the outside, looking in.

URGES RESEARCH IN MACHINERY DEVELOPMENT

And since this movement has been so successful, it would seem that another and fully as important a line of research should be taken up by you, as an association, and for the industry. That line of research is the development of better equipment, better machinery, more labor-saving devices, the elimination of the costly, inexact and uncertain human factor in your industry and the substitution of automatic machinery which can, and I am sure will, produce an article which will combine all of the good points of your present product with comparative freedom from the fear of labor shortage or of labor domination.

This is no time to discuss the comparative merits of hand-made and machine-made fire brick. In other industries, the craftsman has been relegated to the small shop, where special articles are produced for an ever-dwindling trade. Quantity production has demanded fast-moving, fast producing machinery. Standardization has made the exact duplication of units a necessity. Where it has been necessary to reproduce the characteristics of hand-made articles, machinery has been improved. Better bread is made by machinery today than

our mothers made in a dish-pan and “set to rise” by the kitchen stove.

Collective planning along mechanical lines would include a survey of the industry. The more modern equipment of one plant—the device installed for some single purpose at another—the substitution of steel for wood where dampness and abrasion cause quick deterioration—all of these things are today the property of certain manufacturers who have been bold enough to try something now and so depart from the well-trodden lines of their predecessors. One plant, perhaps, has a measuring device that makes a product more uniform than it ran when the mixing was done by rule-of-thumb. Another has a bin system and can automatically tap six or seven different kinds of clay without doing much more than push one or more buttons.

COLLECTIVE PLANNING WOULD SOLVE PROBLEM

How would you start, if you were about to rebuild or remodel one of your plants? Would you take two, three or six months off and go around, visiting the plants you considered most efficient? Would you, at the same time, see many that were out of date in most things, but which, despite that fact, seemed to have a low labor cost? And how would you analyze the knowledge you gained?

Suppose you had the mental equipment—the mechanical training—which would enable you to see just how much of what had come to your notice was of value to you, considering the material you had to work with and the product you wanted to make. All of the rest of the knowledge you would have gained would be lost, so far as its further practical application was concerned.

On the other hand, had this knowledge been secured by someone who could translate it into a form which would be of some value to every manufacturer of refractories, it would stand in the same light as does the knowledge which your Fellowship gains and gives back to you in such good measure.

And so, if by collective planning you could bring the mechanical progress of your industry to the point where it would keep step with its scientific progress, you would have gone a long way in answering the question which now looms so large on the industrial horizon—“What are we going to do if we can't get the men?”

* * *

Government Released Equipment to be Used in State Highway Construction

At intervals for months public attention has been called by newspapers and other interests, to the tremendous waste of war funds embodied in huge quantities of motor trucks, automobiles and considerable other equipment, now lying idle in numerous camps thruout the country. This equipment, it has been pointed out, instead of being put into good service of one kind or another, is rusting and decaying, because, presumably, of lack of efficient action at Washington.

Comes now the hope in the paving brick and allied industries, that a goodly portion of this equipment will be saved for useful purpose, perhaps this year.

Following a special meeting of the Federal Highway Council, at which the paving brick industry was represented by Will P. Blair, vice-president of the National Paving Brick Manufacturers' Association, Cleveland, Ohio, early passage of the Wadsworth-Kahn bill, designed to release this equipment for some definite use, and in this case for the use of highway construction, is assured. This will result from action taken by a conference committee appointed for this especial purpose.

The bill has previously passed both houses of Congress,

but with some slightly altered provisions, which necessitated the conference.

It is now expected that the measure will be passed early in March. It provides for the distribution of surplus trucks, tractors, grading machines, and various other equipment for use in road building, to state highway departments of the country. It provides for the use of this equipment by these departments in state highway construction. Present indications are that this equipment will be actually in use this year.

The chief complaint of contractors, commissioners and nearly all others identified with road building during the last year or so has been that there is an insufficient amount of labor to carry on the different road building projects designed for 1920. Leaders in the move seeking release of this equipment see in its use elimination of this problem, as it will go a long way toward taking the place of labor.

That is, the equipment is ready to take its place in the

work of delivering material from railroads to the point of construction, considered one of the big difficulties in construction of any kind at the present time.

In the equipment that has been standing idle for months in quartermasters' departments all over the country are two important items, from the road builder's point of view. These are portable repair stations and central repair stations, shops that can be used for the repair of all equipment right on the job, or moved from one county to another to make repairs, without the necessity of the equipment itself being moved to distant points for repairs.

Another factor that has much significance is that nothing like this road making equipment is owned at present by any of the state highway departments.

Paving brick interests are particularly interested in seeing this equipment put to use, for during the last year only 66 per cent. of paving brick was used of all road making materials for lack of labor and equipment.



The GROWING BOND of CLOSER COOPERATION between MANUFACTURER and DEALER

IOWA clay products manufacturers are usually in the lead. You can nearly always find them in the front row when it comes to an exhibition of progressive ideas. That they read the signs of the times and heed them is axiomatic. In Bulletin No. 8 of the Permanent Buildings Society, C. B. Platt, secretary, Des Moines, Iowa, issued under date of February 23, the following paragraph appears:

IOWA SECRETARY MEETS WITH DEALERS

"Dealers in building materials have organized. The organization meeting, forming the Iowa branch, was held following the lumber dealers' meeting in Des Moines last week. The secretary of this Society met with them and talked informally on the attitude of Iowa clay manufacturers toward dealer distribution. This dealer organization is another evidence of the tendency of the times. Naturally, they seek to gain advantages not now possessed, and amongst them can be noted as especially important, the idea of 100 per cent. dealer distribution. At the present time they advocate a trade discount of not less than 10 per cent., which would, as we understand it, mean that prices would have to be quoted so as to provide for such discounts. * * * * *

The organization of Building Material Dealers is being actively pushed thruout the U. S., and the movement is receiving a marked impetus thru the activities of "Building Supply News," the new dealers' magazine, published in Chicago. It is evident that our Society can work with the new dealers' organization to the advantage of our members. Our plans and the literature we have and will issue, would be much appreciated by the dealers if made available to them, and our trade-mark will do much toward emphasizing the fact that Iowa dealers should handle Iowa made goods in preference to others. We cannot overlook the advantage that would be gained thru the dealer being a real booster for clay products. It is also suggested that dealers will be in a position to materially aid in attracting the attention of young mechanics to the advantages of the bricklayers' trade, and thus make more apprentice masons."

THE LUMBERMAN'S ATTITUDE

The lumber manufacturers are also showing considerable interest in the 100 per cent. dealer-manufacturer cooperation

campaign, for the "American Lumberman," in a leading editorial in its issue of February 28, under the head-line "Building Materials Should Be Sold Exclusively By Retailers," it says:

"The last ten years have seen a great change in the retail lumber business. The retail lumberman is a merchant selling building materials and service to his customers. The expansion of business has caused a great many retail lumbermen to sell plaster, lime, cement, coal, insulating material and other kindred products entering into building construction as well as lumber.

"The modern building material merchant is the tailor of the home; to him comes the customer who wants to build a home, and the building material merchant applies his knowledge and evolves the home for the prospects to fit the prospect's need and out of the building materials desired. At the conventions of retail lumbermen this winter one of the liveliest topics has been means whereby 100 per cent. dealer distribution for such commodities as lime, cement, plaster, tile and similar commodities can be secured and how they may be put on a more profitable basis. The manufacturers of these commodities have not always been encouraged to cultivate the sale of the products thru retail channels and many of them evince an inclination to sell to any purchaser. Retail lumbermen who handle these commodities justly desire to be protected.

"The best way to secure for the retailer his due is for all of those supplying building material to get together and demand of the manufacturers that they sell only thru dealers. The National Builders' Supply Association defines a dealer as 'one who maintains in all seasons of the year for the purpose of selling at retail, and not for his own consumption, a stock of concrete, masonry, plaster, sewer building, paving, and other similar building materials reasonably commensurate with the demands of the community in which the yard is located, and that he further maintains a proper warehouse for handling and storing such stock, and that he further maintains an office open daily during business hours in charge of a person competent to take care of the wants of the customers.'

"The above definition is excellent, but should have added to it the word 'lumber.' The material manufacturers are in

a receptive mood and if the matter is taken up with them the 'American Lumberman' believes that a great step toward obtaining 100 per cent. dealer distribution can be secured. Now is the time to attend to this matter."

WHERE THE CLAY PRODUCTS INDUSTRY STANDS

All this is significant. It is indicative of the rapidly developing change in relationship between the dealer and the manufacturer of building materials. Some clay products manufacturers for many years have depended upon the dealer to market most of their output. The face brick manufacturers are the best example of this. Much drain tile, sewer pipe, hollow tile, fire brick, floor and wall tile, and even common brick have been sold thru the dealer, and he, that is to say the dealer, has been an important factor in the distribution of a large part of the output of these materials. However, it is a matter of common knowledge that the common brick manufacturers have profited less than any other class of clay workers in the matter of dealer co-operation. It is pointed out that the common brick business is largely local and therefore the dealer does not in the very nature of the case, play a very important part in the sale of the material.

However, common brick is becoming more valuable each day. There is a steadily growing demand for it which will be greatly accentuated by associational advertising and promotion. If the building supply dealers are not made a part of the common brick manufacturers' distribution machinery is it not possible that prospective builders, especially in the small towns, knowing only one source of information as to building materials, will go to the dealers in their towns and fail to secure the information or encouragement they should have in order to make common brick advertising a big success? A condition such as this would surely be a mistake.

CULTIVATE THE DEALER

Manufacturers of every kind of clay products should cultivate the building supply dealer. If they don't the lumbermen will. Happily, at least one class of clay products manufacturers has appreciated the situation and the secretary of one of the *national* associations has been visiting most of the building supply dealer conventions during the past few months. His remarks have been applauded to the echo. He has been given a cordial reception and as a result, the dealers to whom he has spoken have gone home with a better understanding of the attitude of the manufacturers of the particular material which he represents.

It is predicted that the dealer will soon become a very

important factor in the distribution of clay products. Clay products manufacturers who desire to keep abreast of the times are urged to make their sales plans accordingly.



Newspapers Can Be of Great Influence Urging Home Building

Endorsing a six months' "Build Now" campaign which has just been inaugurated by the Boston "Herald" and Boston "Traveler," Ralph P. Stoddard, secretary-manager of the Common Brick Manufacturers' Association of America, says:

"We believe the housing question is one of the most vital before the public today. Everywhere there is a dearth of houses and various communities are trying to solve this problem in their own way. The newspapers can be of great influence in urging home building." After discussing the shortage in the lumber market and other matters which mitigate against the erection of frame houses, he continues:

"Every man who builds the exterior walls of his home of brick conserves a certain amount of lumber. At the same time he gets a better home and one more economical to live in and maintain, and a safer and warmer home. He cuts down his upkeep cost to the minimum. The community is bettered because the danger of a big conflagration is reduced every time a brick house is built.

"The building of brick homes also conserves labor which is one of the scarcest commodities in our industrial life today, because the same amount of labor that goes into a brick house serves the community at least five times as long as tho it were put into a frame house, because the brick house will last five times as long.

"No newspaper need fear taking this side of the question. You will meet with no opposition except one inspired by pure selfishness on the part of the less aggressive lumber dealers. Even the lumberman who looks ahead realizes that the use of that commodity for exposed places is out of order."



"Wall Street Journal" of February 21 states that building permit figures for 1919 indicate that the country is still \$2,000,000 or more in arrears in its program. In spite of record-breaking figures of about \$1,312,000,000 last year, slackening in building activity during 1917 and 1918 put the United States so far behind that it will probably take some years to catch up.



ARE ALL ASSOCIATIONS a GOOD INVESTMENT?

IN THE PAST the pride of saying "Our Association," has been one of the chief assets of the organization, writes H. L. Porter, in a recent issue of "Lumber."

We are wondering if the day will not come soon when the acid test of efficiency and production must be applied to associations of merchants the country over.

Quite true, the social feature of getting together any body of merchants in the same line of business once a year, or more frequently, is of exceptional value, and no one would think of eliminating that feature. But, there is much more to be accomplished than merely the social side.

We are living in 1920—a day of the most keen competition and along many different lines which were never practiced or thought of before.

A social organization among merchants years ago representing a very nominal investment may have been all right. But today the question with organization is a matter of production, of efficiency, of energy and enthusiasm. All of which, of course, must mean a much greater outlay of money than ever before, but while the investment is greater, the return will be in like proportion.

Efficient associations of merchants and manufacturers in this day must be guided and operated and managed by skillfully trained experts for the job. An ordinary good fellow with a desire to make \$200 or \$250 a month will not fill the bill. The modern secretary or manager must be a man of energy, ability and vision. He must look ahead and be able to advise his membership more or less definitely on what is coming just ahead.

DEMONSTRATIONS SHOW VALUE *of* LAND DRAINAGE

*In Dry Seasons or Wet, Tile Drains Prove
Beneficial—Canadians to Draw Up Specifications*

By F. L. Ferguson, B. S. A.

*Read at the Eighteenth Annual Convention of the Canadian National Clay
Products Association, Toronto, January 20-22, 1920*

THERE NEVER WAS in the history of our Province, a time when there was a more general demand for drain tile. This has been affected from several sources. In the first place, and no doubt the greatest fact was the nature of the weather during the season of 1916 and 1917. Hundreds of acres especially in the western part of Ontario, but in other sections as well, never produced a bushel of grain. Many a farmer never had a thrashing machine on his place, and many others thrashed only a very small percentage of their usual crop. It was a sore touch for the fellow who had no artificial drainage, installed on his farm as a stand by, to watch his neighbor on his drained farm, sow his seed and reap his harvest, with comparatively little trouble. He swore to himself and often to his neighbors that he would never be caught again and he immediately began to figure some means by which he might tile his farm, which he saw would most assuredly be a paying proposition should another such season be encountered, and he reasoned that if it was most necessary under extreme conditions that it would surely help some under ordinary conditions. He made application to his Township Clerk for a loan, approached his banker manager, or got credit from the tile manufacturer, and proceeded with the work. There was a great demand made on those tile yards situated in those drowned sections.

In the second place, the intelligent farmer has not been asleep to necessary improvements. Literature has been circulated, demonstrations held and Associations formed in the interests of the drainage work, and in many districts today it is not a question of, "Does Drainage Pay," but it is "Where can I get tile—where can I secure the services of a machine, or where can I get help to carry on the work?"

During the last five years we have obtained some very interesting as well as educational, figures on the benefits received from tile draining. The year 1914 was quite an exception to the wet years which we have already mentioned. From September, 1913 to August, 1914, the precipitation was the smallest for any similar period, yet in spite of this the drained portion of our demonstration plots gave an average return of \$14.12 per acre more than the undrained portion. This is very striking proof of the claim that drainage is quite beneficial during a dry season.

The year 1915 was perhaps the most favorable for undrained land we have had in the last five years. The spring was fairly dry, moderate rains followed during the growing season, and sufficient during the ripening period for proper filling. Yet in spite of this the average returns from fourteen demonstration plots show a difference of \$4.48 in favor of the drained land. Allowing for a cost of \$40 per acre for tiling, this would be a return of a little over 11 per cent. on the money invested.

It is not necessary for one to mention the returns in 1916 and 1917. Tile in many cases meant the difference between no crop and a good crop. The tile, and expense of tiling were paid for many times, but the other fellow suffered severely.

POOR TILE WORSE THAN NONE AT ALL

The farmer has learned or is learning his lesson either by the experience of other people or thru some experience of his own, and the result is that we have today a demand for tile that cannot be met or at least isn't being met, and in this business as with any other, the demand has not helped to improve the quality of the product. Some manufacturers have not permitted the culling of their tile, in fact there was such a demand that he didn't have time to cull. The wagons were there waiting the cooling of the kiln and one fellow expressed it very forcibly, when he said that they loaded them so hot that they nearly set the wagon on fire, and consequently many poor tile have gone to the field. My own contention is that a poor tile is worse than none at all, and some method of inspection ought to be in action to insure the production of a good article.

The tiling industry might be spoken of as being in its infancy. It has been estimated that one-third of the cleared land of Ontario or about 5,000,000 acres is in urgent need of drainage while much more would be greatly benefited. Then there are large areas of swamps, marsh and slush which might be reclaimed—probably about a quarter million acres. These figures refer to old Ontario. Much of the clay belt of new Ontario will require drainage before it will produce to its full capacity. In Quebec and the Maritime Provinces, where there is considerable more rainfall than in Ontario much drainage is needed. Consequently, there is bound to be a growing demand for the manufacturer of land tile.

QUALITY TO BE DETERMINED

One of the questions which is being confronted is the quality of the tile that is being made. I understand that this association has taken steps along this line and it is not for me to say what should be done, but I would like to say a few words about what we hope to make a start at in this coming season. As a matter of fact, I hoped to have some information before these meetings were held, but unfortunately the tile with which we hope to work have not yet arrived, with the exception of one lot, and this work could not be conducted, but we hope to do some testing in an endeavor to find out something of the quality of the tile turned out. So far as I can find out there has been nothing done in this country along this line, and our methods and equipment may be somewhat crude, but with experience these will improve.

Using the United States standard of specifications as a basis I would like to give briefly an outline of the work I

would like to see undertaken, and I would be very glad to have it discussed and criticised in the hope that some improvements might be made. The tests would be three in number: Strength, Absorption and Freezing and Thawing, and these tests would apply to concrete as well as clay. It is possible that they are more necessary in the former than in the latter.

I think that if any method of inspection were undertaken it would be most necessary to have a clearly defined standard and of necessity some work would have to be done along this line.

(a) STRENGTH TESTS OF DRAIN TILE

1. Specimens to be broken and full size.
2. Walls as thoroly wet as will result from being completely covered with some absorbent material, which has been kept dampened for not less than twelve hours.
3. Specimens must be kept at a temperature not lower than 40 deg. Fahr. until tested.
4. Each specimen shall be weighed just prior to testing and weights reported.
5. Sand bearing, hydraulic bearings or three point bearings may be used.
6. The results shall be expressed in pounds and per linear foot, for individual specimens, together with the average.

(b) ABSORPTION TESTS FOR DRAIN TILE

1. Three specimens shall be taken from each of the five tile broken, one from each end and one from the middle.

Each specimen shall be from 12 to 20 sq. in. in area measured on the convex side, and shall be as nearly square as the material will permit. Each specimen shall be sound, solid, free from cracks, fissures or shattered edges, and shall be marked as to permit identity at any stage of the test.

2. All specimens shall be weighed to the nearest gram. They shall then be dried in an oven at not less than 110 deg. C. (230 deg. Fahr.), for not less than three hours. When removed they shall be cooled to 20-25 deg. C. (68-77 deg. Fahr.) and weighed. If the weight does not check closely, on the first, they shall be placed on the dryer for two hours and reweighed. This must be repeated until the weights check.

3. Specimens shall be placed in a suitable woven-wire receptacle, packed tightly enough to prevent jostling, covered with distilled or rain water raised to the boiling point and boiled for five hours, and cooled in water to a temperature of 10-15 deg. C. (50-59 deg. Fahr.).

4. The results shall be calculated as percentage of the initial dry weight—to the first decimal place. Each individual specimen shall be reported separately, together with the mean of the fifteen or more specimens comprising the standard sample, the maximum and the minimum single observations entering into the mean, and the variation between the maximum and the minimum of the three specimens of each tile represented in the standard sample.

(c) FREEZING AND THAWING TESTS OF DRAIN TILE

1. The test specimens used in the absorption test shall be used for the freezing and thawing tests, or other specimens shall be prepared in the same way, taking the same precautions in selection, drying, immersing, boiling and cooling.

2. Specimens must be kept immersed until this test is commenced. They shall be placed in metal trays with concave side upwards, and immersed in ice water until the specimens have attained substantially the temperature of the water, after which the water shall be drawn down to a depth of $\frac{1}{2}$ inch in each tray. The trays are then placed in a freezing apparatus.

Freezing must be performed in a quiet atmosphere free from natural or artificial currents. The temperature shall be re-

duced to 10 deg. C. (14 deg. Fahr.) or below within thirty minutes after the introduction of the specimens. The temperature shall not fall lower than 20 deg. C. (4 deg. Fahr.). The freezing shall be continued until the water in the trays is frozen solid.

At the conclusion of the freezing, the specimens shall be withdrawn, and at once immersed in water at a temperature of 85-100 deg. C. (185-212 deg. Fahr.). Heating shall be continued so that the water will regain the required temperature as soon as practicable, after the specimens are immersed. This shall be maintained for not less than 15 minutes.

The specimens shall then be cooled rapidly in water at 10-15 deg. C. (50-59 deg. Fahr.) and then inspected.

3. Failure under freezing and thawing treatment shall be considered reached when:

(a) The specimens show superficial disintegration or spalling, with loss of weight or more than 5 per cent. of the initial dry weight, or

(b) The specimens are badly cracked in other than lamination planes, or

(c) The specimens show evident serious loss of structural strength.

* * *

Exports of Clay Products—New York

Officials at the Port of New York have compiled statistics showing the exports of clay products from this point of shipment during December, 1919. The principal tabulations are as follows:

Fire Brick—Total valuation, \$20,237. Primary shipments were made to San Domingo, \$5,205; Peru, \$7,955; British India, \$4,291; Cuba, \$734; Colombia, \$1,025, and Nicaragua, \$232.

Fire Clay—Total, \$1,116. Shipments made to British India, \$932; San Domingo, \$105; Spain, \$55, and Hayti, \$24.

Other Clay—Total valuation, \$2,943. Shipments made to Mexico, \$2,505, and Brazil, \$438.

Chinaware—Total valuation, \$24,122. Principal shipments were made to Colombia, \$3,877; Brazil, \$876; Netherlands, \$2,236; Spain, \$1,000; Costa Rica, \$666; Mexico, \$1,426; Cuba, \$7,785; San Domingo, \$469; Colombia, \$3,877; Peru, \$513; Venezuela, \$911; British India, \$344; and Australia, \$395.

Earthenware—Total Valuation, \$26,733. Principal shipments British West Indies, \$822; Cuba, \$4,663; French West Indies, \$755; Hayti, \$5,733; Brazil, \$500; Colombia, \$2,203; Peru, \$580; Venezuela, \$668 and Dutch East Indies, \$659.

Building Brick—Total, \$3,656. Principal shipments include: Trinidad, \$2,800, and Chili, \$856, totaling in quantity, 140,000 and 72,000, respectively.

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Some Causes for Fire Brick Failures

As part of the service which the Elk Fire Brick Co., of St. Marys, Pa., exponents of "Refractory Engineering" give to their trade, a twenty-three page booklet has been prepared under the title of "Some Causes for Fire Brick Failures" and distributed among users of fire brick. The booklet tells of the care required in the manufacturing processes, and points out the care that should be taken in their handling. Eight important suggestions pertaining to the care and method of using fire brick are fully discussed in the pamphlet, and there is no doubt but that the reading of this information will help the consumer materially in improving the service obtained from fire brick linings. J. D. Ramsay, who is president of the concern, states that he has received many very commendable letters concerning this booklet.

Issues Bulletin on Bond Clays

A recent bulletin issued by the Bureau of Standards deals with the properties of American bond clays used in the manufacture of graphite crucibles, glass house refractories, etc. The results of exhaustive tests are given and comparisons made between the domestic materials and those formerly imported from Germany. The principles applying to the selection and use of different clays in the several refractories are discussed and examples given. Some of the faulty procedures obtaining in works practice are pointed out. Among other things the composition and method of making porcelain glass pots are described.

A copy of this bulletin may be secured free of charge by addressing the Bureau of Standards, Washington, D. C., requesting Technologic Paper No. 144.

* * *

Laclede-Christy Employees Hold Organization and Sales Conference

Reminiscences of seventy-five years of successful business life engaged in the manufacture of refractories, making fire brick and fire clays for every industrial requirement, coupled with predictions for heavily increased business during 1920, were indulged in by representatives of the Laclede-Christy Clay Products Co. at the annual banquet of the organization, held at Hotel Statler, St. Louis, Mo., recently. The dinner followed a three-day sales conference, held at the general offices, which was attended by salesmen from every part of the United States. The entire office personnel and directors were in attendance at the banquet.

The program was arranged by J. L. Green, president, and R. D. Hatton, vice-president and general manager. The entertainment committee consisted of J. H. McKelvey, sales manager, L. H. Stowe, stoker manager, and W. J. Westphalen, secretary and treasurer. Messrs. Green and Hatton made brief talks on the aims and policies of the company, emphasizing the spirit of cooperation necessary for real success. B. E. Chappelow, president of Chappelow Advertising

Co., St. Louis, spoke at length, outlining the program for the company's 1920 national advertising campaign. Dwight T. Farnham, well known industrial engineer, spoke of achievements in the factories during the past year.

Out-of-town representatives included H. R. Green, New York; P. M. Offill and H. E. Johnson, Pittsburgh; Little, Gill & Hope, Chicago; Mr. Rex, Detroit, and H. C. Lannon, of Washington, D. C.

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250,000 Surplus Becomes 75,000 Shortage

Professor H. H. Stock, of the University of Illinois, in presenting storage possibilities of soft coal before the American Institute of Mining and Metallurgical Engineers, New York, stressed the fact that purchase and storage of coal during spring and summer months were absolutely necessary for supply regularity or production regularity. S. L. Yerkes stated that the car shortage stands out above all troubles of the coal industry. "Never in the history of the coal industry," he said, "has a surplus of approximately 250,000 open top cars available for coal loading been wiped out and changed to a shortage of approximately 75,000 cars in eight months, yet such are the facts, as on April 1, 1919, there was an approximate surplus of 250,000 open top cars, while today a fair estimate of the shortage is 75,000 cars."

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January Building Figures

The total value of building permits for January, 1920, is \$117,747,298 for 193 cities, as against a total of \$24,732,529 for the same cities in January, 1919, or a gain of over 440 per cent. according to the "American Contractor" of February 14. Last year's January figures showed a 12 per cent. falling off from the January activity of 1918, so that the gain of 440 per cent. of this year is not as enormous as would at first appear. Yet the record is high, considering especially the obstacles which are to be faced this year, as well as in the beginning of 1919. The "American Contractor"



The Entire Office Personnel, Directors and Sales Force of the Laclede-Christy Clay Products Co. Attended the Banquet Which Concluded the Three Day Sales Conference Held in St. Louis Recently.

says: "In spite of lack of investment money, adequate supply of labor, and a serious dearth of materials, there seems to be an early bucking into the problems of 1920 if official figures for permits and statistics for contracts awarded are any criterion."

January building operations as a rule out-distance 1919 averages especially in the territory east of the Missouri and north of the Ohio river, in the New York district, and in the Northwest. New England falls somewhat behind the 1919 average and the Central West (comprising Illinois, Indiana, Iowa, Wisconsin, Michigan, etc.) shows a slight recession from the monthly average for 1919. Ordinarily the month of January shows but little activity in comparison with months later in the year, the amount of building contracts in that month running normally to only 5 or 6 per cent. of the year's total. With so large a figure for January the estimate of three billions for the year's total of contracts seems likely to be fulfilled.

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"Smiling Jim" Hoskins

In the passing of James M. Hoskins, vice-president and manager of the Terre Haute Vitreous Brick Co., Terre Haute, Ind., the clay products manufacturing industry has lost a genial and ever happy member. Mr. Hoskins was ill for only ten days prior to his death on February 21, during which time he suffered from an attack of bronchial pneumonia, which proved fatal. Mr. Hoskins was 59 years old. He is survived by a widow and one son, Robert. The funeral was held on Monday, February 23.

Mr. Hoskins was born in Vigo County, Dec. 3, 1860,



JAMES M. HOSKINS

and had lived there practically all of his life, acquiring numbers of friends thru the pleasant genialty and innate kindness that marked his actions at all times. In fact, he was known to his friends as "Smiling Jim."

All of the activities of the Terre Haute Chamber of Commerce since its organization benefited by his assistance and cooperation.

One of the groups of persons which gained thru the interest of Mr. Hoskins is the Flora Gulick Boys' Club, with which he served as president of the board of directors during the years of 1917 and 1918. He retired in January, 1919, and withdrew from active connection thru pressure of business affairs about six months ago.

It is said that up until the time of his withdrawal, he had never missed a single meeting of the club and was always in demand by the boys. At the meetings he frequently entertained them with poems by James Whitcomb Riley, and tales from his own experiences. The title of "Mayor of Taylorville" was generally bestowed on him by the members of the club at the meetings. This was gained thru his having posed in a group picture of mayors and public officials of the cities of the state and giving his city as "Taylorville."

Not only were the boys of the Flora Gulick Club his friends, but hundreds of other boys of Terre Haute enjoyed the hospitality he often extended to impromptu parties of boys he met on the streets. Interest in and cooperation with all worthy forms of welfare were given during his many years in Terre Haute.

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Possible Reduction in Business Activity

The Federal Reserve Board has issued a review of general business and financial conditions thruout the several Federal Reserve Districts during the month of February and states that while Federal Reserve agents in their reports as to business conditions and the outlook for trade forecast the continuance of an active demand for products, the situation in some districts is such as to raise questions and to lead to predictions of possible reduction in business activity and in prosperity. No increase in labor unrest is observable, but in some districts a continuation of under-production or limitation of production is encountered.

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The Consumer Pays the Total Bill

According to the "Public Ledger" of Philadelphia, Wm. B. Colver, member of the Federal Trade Commission, in an address before the National Consumers League at Newark, N. J., said that "the excess-profits tax is another corner stone, if not the chief of the corner, in our structure of unhealthy prices. The excess-profits tax was never proposed as a revenue measure. It was proposed only as a corrective to government price-fixing. . . . Even as a corrective it did not work. Now the Government is no longer fixing prices and the only excuse which ever existed, if one did exist, for the excess-profits tax has disappeared. On everything that you buy there are from one to fifty excess-profits taxes. Each one who pays an excess-profits tax adds it to his selling price and passes it on. The consumer finally pays the total bill."

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Six "Reasons" for Present Conditions

H. E. Figg, special assistant to the Attorney General, stated at the ninth annual convention of the National Dry Goods Association, that the "first reason for the present conditions is the increased volume of money and credits; second, wide increase in wages, due partly to war necessities and government wage scales; third, lessened world production; fourth, increased cost of distribution; fifth, reckless extravagance and a spirit of speculation, and sixth, profiteering."

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The Salisbury Brick Co., Salisbury, Del., has filed notice of change of company name to the Salisbury Motor Co.

STONY BRICK CLAYS

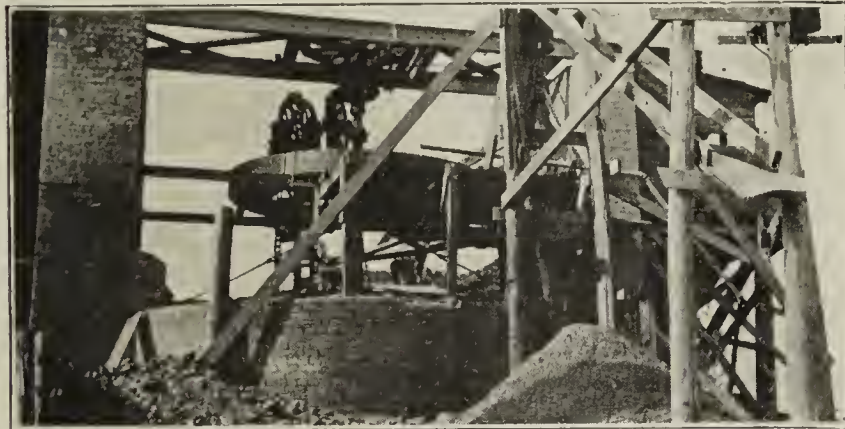
Methods of Treating Raw Material Containing Large Amount of Pebbles, With a Discussion on the Subject by William Burgess, of the Don Valley Brick Company, Todmorden, Ontario

By J. Keele

Engineer, Mines Branch, Ottawa, Canada. Read at the Canadian National Clay Products Association Meeting at Toronto, January 21

CLAYS CONTAINING PEBBLES or stones are usually avoided by brick and tile makers when choosing a suitable location for the erection of a plant.

Mistakes have frequently been made in the past, in Canada, by erecting plants on sites where stony clay occurred.



Showing Machine Used for Washing Raw Clay in Order to Separate Stones, Sand and Clay, to Enable the Clay to be Used in Making Structural Products.

when a thoro preliminary examination of the ground would have proved the futility of such an enterprise.

In some cases, however, plants which have been working for years on perfectly stoneless clay, making good burned products, sometimes find on extending their clay pits that they are gradually running into a stony variety of clay.

In many parts of southwestern Ontario only a foot or two of the surface clay is stoneless and fit to be used for tile making, as stones invariably are encountered below this depth. A thin sheet of stoneless clay is so quickly worked that the distance from the clay pit to the machine is constantly increasing so that tile makers would like to dig deeper in the vicinity of their plants if they dared do so.

Over the recently opened agricultural region along the National Transcontinental Railway between Cochrane and Hearst, is a great sheet of plastic stony glacial clay. It is difficult to select a patch here that would be sufficiently free from pebbles for use in making brick and tile, but doubtless enough clean clay could be obtained for a small output. The clay burns to a buff color and will make brick or tile of very similar quality to buff or so-called white materials in southern Ontario.

PEBBLES NOT ALWAYS NOTICEABLE

There are large masses of plastic yellowish grey, glacial clay in the vicinity of Hamilton, Ontario, and the Welland Canal as well as several parts of the Niagara Peninsula. Much of this clay appears to be stoneless on a casual inspection, but close scrutiny generally reveals the presence of small rock particles and pebbles. The pebbles being

coated with clay are liable to be overlooked in a hasty examination.

If a clay contains only a few scattered pebbles of rock other than limestone or dolomite then it may be worked, if its properties otherwise are good. Broken wires may frequently occur in the cutter if stiff-mud brick is being made, or an occasional brick will fire check if it contains too large a pebble, but if proper crushing rolls are provided for the clay to pass thru, or if a dry pan is used for grinding, the loss of time due to broken wires can be stopped.

It is the presence of limestone pebbles that causes the real difficulty in working stony clays.

Palissy, the famous French potter, experimenting with various clays in the sixteenth century and recording his impressions of them, says: "There are some kinds of clay which are of evil nature; because among them there are little stones, which, when the vessels are baked, the little stones which are in the said vessels are reduced to limes, and suddenly when they come to feel the humidity of the air, they swell and cause the said vessel to split in the place where they are enclosed, and this is because the said stones were calcined in the baking; and by this means many vessels are lost, however great the labor one may have employed upon them." This quotation expressed the experience of all clayworkers from Palissy's time to the present day.

METHODS USED TO REMOVE STONES

Many methods have been tried for eliminating the troubles due to limestones in clay, the simplest probably being that of using a pair of rolls set above the machine.



This View Shows a Car of Raw Material About to be Introduced Into the Machine. Note at the Bottom of the Picture Some of the Large Stones and Pebbles That Have Already Been Removed From the Clay.

Rolls that are designed for crushing stony plastic clays, reject the rocks or hard portions which are too large to fall within the angle of nip and grind or pulverize the smaller

stones which pass thru with the clay. The Diesener Clay Cleaner is a machine devised especially for removing pebbles and coarse grit from plastic clays. In this process a bar of clay is pushed from an auger machine thru a slot and against a revolving disk. The disk sucks the clay thru the slot but the pebbles stop behind and are scraped away with a knife. This machine is said to purify clay at the rate of ten tons an hour thru a slot of one-sixteenth inch.

Another device is to use a dry pan with the mullers set an inch or so above the surface of the pan. This process is supposed to break down the clay and force it thru the perforated bottom of the pan while the pebbles stay behind. The pan is stopped occasionally and the stones thrown out.

Another plan is to grind the clay, pebbles and all in the ordinary way in a dry pan, working continuously, and run the clay over screens so as to reduce the limestone pebbles to small enough size to be harmless.

In using the dry pan method the clay must be in the dry condition which involves storage room for drying clays or else a rotary dryer should be used.

WASHING PROCESS HAS BEEN USED

It has been proved that unless limestone in clay is ground finely enough to pass thru a 30-mesh screen it will cause trouble by developing soft white specks in the burned brick which will cause flaking of the surfaces. Of course these small grains of lime, unless very plentiful, would not weaken a well burned brick very materially, yet they would be sure to disfigure brick for facing purposes.

As it is not practical in any of the crushing or grinding processes to reduce the pebbles to this small size, the trouble with the lime grains is not entirely eliminated by them. Furthermore any of the rough grinding processes, such as passing the clay thru rolls, merely accentuates the trouble, since it often breaks up one pebble of limestone into several smaller ones each of which then becomes active after burning.

The most effective way to treat clays containing limestone pebbles is by a washing process which would leave the stone behind as a heavy residue and the overflow taking the fine clay down to settling basins.

Washing of high grade clays, such as kaolin and stoneware clays is the common practice, but the poorer grade of clays used for brick and tile are not washed because the value of the product will not offset the extra expense. One plant at least, however, in the United States successfully cleans glacial clay from limestone pebbles by a washing process; it is situated at Hutchinson, McLeod County, in Minnesota. Its operation is described in the report by Mr. Frank Grout, on Clays, Minnesota, Bulletin 678, United States Geological Survey, as follows:

"The washing machinery occupies a space not over twenty feet square and fifteen feet high and washed 130 yards of clay in a day. The clay from the bank is hauled by cable car to the washer, where it is mixed with an excess of water and agitated by a series of vertical rods fastened to a rotating cross-beam. The harrow-like motion of these rods tends to throw the larger pebbles toward the center and leaves the fine clay and sand suspended and distributed thruout the washer pit. A bucket elevator of continuous operation dips into the pit near the center and removes the gravel. The gravel, if cleansed, forms a by-product of considerable value. At the sides of the pit a screen of proper mesh allows the escape of the fine sand and clay to one of a series of open ponds in which they are allowed to settle. After a time some of the water is pumped off and the rest is left to sink into the ground. The sand naturally settles close to the intake of the pond, and the clay is carried to the farther side. After partial drying the material is taken to the stiff-mud machine, where the clay and sand are mixed in approximately the same proportions in which they existed in the

drift before the washing. Experiments are now in progress to determine whether the clay is improved by standing in the settling ponds all winter. The gravel is sold for concrete. Both clay and the sand contain a considerable amount of calcium carbonate, but if care is taken to remove the coarser sand the lime does not harm, and it is certainly less abundant than in the unwashed drift. The plant at Hutchinson is equipped with three round down-draft kilns, and plans are made to double the capacity. It has been found possible with this clay to produce a very good drain tile and hollow building block, so that the production of common brick has become secondary."

WASHING INCREASES COST OF MANUFACTURE

Some of the glacial stony clays in southern Ontario would yield good tile clays when washed, and a small or medium sized local plant situated in a district where there are no tile plants at present and no stoneless clays available, should have a chance of succeeding.

Such a plant, however, could not ship its products over any considerable territory as it would then meet the competition of plants using clay that is free from limestone pebbles and therefore more cheaply worked.

Hitherto we have been dealing with the treatment of the raw clay but there are certain aspects of the burning and of methods of dealing with the burned product which must be considered.

In certain parts of England where clays containing limestone pebbles are worked, it is customary to grind the clay as fine as practical and after the brick are burned the cars on which they are loaded are drawn thru a pool of water so that they are completely immersed and saturated. This treatment slakes the lime particles quickly and appears to do less damage than if they are allowed to slake and expand slowly from the moisture absorbed in the atmosphere.

At the Don Valley Brick Works in Toronto, there are certain beds of stony clay interbedded with the stoneless clay, and both are worked together. As the clay drops down thru the rolls from the pug mill the larger stones are expelled by the rolls and the small ones go thru the machine and are crushed. This clay is used in the manufacture of end wire-cut brick and burned in an overhead fired continuous kiln. The limestone particles give surprisingly little trouble in the burned product. It seems as if the method of burning had something to do in checking the subsequent activity of the lime particles due to the smoky atmosphere and reducing conditions present in the chambers of the continuous kiln. The reducing condition at high temperatures appears to cause fusion between the surface of the lime particles and the surrounding clay and this fused skin prevents the access of moisture to the lime, but whatever the reason is, the lime is more effectually killed than it would be after coming thru a well oxidized firing.

ADDITION OF SALT HELPS CLAY

A plant producing face brick from glacial clays containing a few scattered pebbles of limestone is situated at Rymal, about four miles southwest of Hamilton, Ont. The clay is ground in dry pans, screened and made up into stiff-mud brick. The burning is done in round down-draft kilns up to as high a temperature as the brick will stand without sticking together. The product is a hard sulphur colored brick which shows no bad effects from the lime grains. In this case the lime grains probably form a fused bond with the clay so that there are no after effects.

Finally we have to consider the addition of some substance to the clay which would prevent the slaking of the lime after burning. The writer had made many experiments to this end, but found that the only practical thing to do was add some salt to the water used in tempering.

A set of test pieces of burned clay containing limestone particles to which one per cent. of salt was added have now been standing in the laboratory for about a year and show little or no indication of disintegrating, while similar test pieces made up without the salt have gone to pieces long ago.

WM. BURGESS DISCUSSES PAPER

Limestone pebbles in clay are the brickmaker's enemy, and cause him many sleepless nights when they run into a gravel pocket or a seam of boulder clay. I agree with Palissy about clay of evil nature. I sometimes think the brick when made and burned are possessed of the devil for they often go wrong when you least expect them to. If pebbles are very small the brick look as tho they had the Ontario smallpox.

I do not like to have pebbles the size of marbles broken with rolls as it will make three or four specks of lime in brick in place of one if it were not broken. The use of dry pans is the only way to beat the enemy "Pebbles."

We can get rid of pebbles the size of a walnut and larger with the use of conical rolls; but when the pebbles are smaller than walnuts it is not of much use to try to eliminate them with rolls. I have never seen the Diesner Clay Cleaner working, but if it will remove small pebbles it sure will be a blessing to the brickmaker using pebbly clay. I do not think that a very large quantity of clay could be gotten thru a pan with

the mullers set one inch or more above the surface of the pan bed, unless you had your clay very dry and did not require much crushing.

The best way I know of, is to grind the clay and pebbles all together, using a screen small enough to make them harmless. This method also requires dry clay to get any quantity thru your pans.

I have read of English brickmakers washing clay in large quantities at a very low cost per thousand.

It is quite true that the top-fired continuous kiln eliminates or kills the largest part of the lime particles in the brick.

Last summer I took a piece of boulder clay, weighing 112 lbs., which I knew contained some pebbles, and was more than surprised after I washed and screened it, to find I had 2 lb. 5 ozs. of small pebbles, the largest no bigger than a hazelnut and the smallest one the size of a pea.

Last month we ran into a seam of 'pebbly' clay, about 12 inches thick, 30 feet higher up the bank, and I took a lump weighing 34 lbs. and found it to contain 5 lbs. of pebbles and coarse white sand. While I do not think this pebble seam extends very far, yet it has to go in the brick, so you see what we are up against at times, therefore, I know the man with pebbly clay has his troubles. I did not burn this 5 lbs. of pebbles for lime, but just keep them to look at and to think they all came out of 34 lbs. of clay.



ADOPTS EMPLOYEES' GROUP OWNERSHIP PLAN

A TALK WITH WARREN GRIFFISS, general manager of the Baltimore (Md.) Brick Co., is a talk worth while, for not only does it fire inspiration and enthusiasm for the great possibilities in the brick manufacturing field, but it brings forth valuable and instructive counsel for the solution of some of the important problems confronting the building industry today.

Mr. Griffiss is a man of vision, sound reasoning and firm determination; he seeks for the "why" of matters and then he finds a solution. His faith in the future, and the brick industry in particular, is shown in the development and expansion plans now under way for his company. He says that the improvements and extensions at the various plants will make these yards the most up-to-date in the country—and he means it, for no expense will be spared in increasing capacity and bringing about just the right measure of efficient operation; the happy mean between over-specialization and under-specialization in standard manufacture.

PLANT EXPANSION

The Baltimore Brick Co. has a total of eight plants, with present aggregate annual capacity of 85,000,000 brick. Where required, these different yards will be modernized and new equipment installed for greater output. It is proposed to bring the capacity up to a point of about 50 per cent. additional, or approximately a total of 130,000,000 to 140,000,000 brick a year. In other words, the production of 1920 will be three times that of 1919, when reduced output has been necessary thru a number of reasons, and particularly during the early months of the past year, when the building industry was just commencing to revive.

This expansion, as planned and now under way, will adequately provide for all demands for common brick thruout this district in the months to come, at the same time enabling the company to restore its reserve stocks, which the demands of the Government during the war period entirely absorbed. Large quantities of brick were furnished for

Federal work thruout the war term, bringing a later handicap in the lack of sufficient reserves.

With the coming of spring, the enormous output of the company will be available, and there need be no fear of a



WARREN GRIFFISS

brick shortage in this section, now so thriving under an industrial tide of new construction projects at Sparrows Point, Fairfield and other districts.

EMPLOYEES GROUP OWNERSHIP PLAN

Numerous conflicting reports have been circulated in weeks past regarding the sale of the Baltimore Brick Co. to other interests, and the exact, authoritative status of affairs in this connection is of decided interest to settle once and for all misleading rumors. In substance, the present management of the company broadened its sphere of attainments by inviting new interests to participate in the operations.

During the latter part of last November, the financial interests owning a majority of the preferred stock of the company, thus constituting a controlling factor, disposed of their holdings to a double group, composed, on the one hand, of a number of the present employees of the company, and on the other, by Frank Novak, prominent in local realty affairs, and several of his associates. Neither of these two groups alone possess a majority control.

The employees participating in the prosperity of the organization comprise clerks, superintendents, foremen and the like, but none below the latter character of employment. These are men long associated with the business, in close touch with the daily activities and in hearty sympathy with management and operations.

In discussing the matter, Mr. Griffiss points out that it is not contemplated that there will be any change in the operation of the brick producing end of the business, beyond the general expansion and enlargement, noted above, and the management and conduct of affairs will continue in the hands of those who have been directing the work for a great many years past.

The idea that some of the employees be permitted to become part owners of the company has proved a popular one, and every indication points to the complete success of the plan. The group arrangement as perfected serves as an effective means for entire equity to all concerned, share and share alike.

HOUSING PROBLEM AND THE BUILDING INDUSTRY

Like other cities of the country, Baltimore has had its housing problems, due to the rapid growth of industrial enterprises and the cessation of dwelling construction during the war period. At the present time, however, the situation seems well in hand; the enterprise and activity of local building interests have gone far to help the cause in this direction.

In commenting upon the situation, Mr. Griffiss brings up matters of national aspect in regard to the building industry, "hitting the nail on the head" squarely and firmly as pertains to the disruptions and dissensions evidenced in certain directions. A summary of these views can be expressed best by using his own remarks:

"The local housing problem is being handled; in my opinion, the most experienced, best equipped, capable and successful house builders of Baltimore have the situation thoroly gauged, and have undertaken the construction of the maximum number of houses that it is feasible to build at this time. The extent of this building is determined by the availability of labor and materials. The builders have gone the limit in stretching the possibilities in regard to both to the utmost.

"The greatest deterrent factor is the entrance of a number of ignorant, inexperienced, ill-advised persons into the building game. By them the prices of both labor and materials are constantly bid up, sometimes even against themselves, until figures are reached that are wholly prohibitive to the intelligent builder. There would seem to be no way of preventing their disrupting labor, but the material men could help to stabilize the situation by refusing the alluring easy money, and the exorbitant prices offered by the inexperienced; and instead, selling their materials at reasonable prices, only to the established builders, who can use them all.

"This would stimulate the utmost and healthiest activity, whereas the ridiculously fabulous prices paid by novices, lead only to disaster, and serve greatly to discourage the legitimate builder from undertaking the greater measure of accomplishment. Every material man should spare no effort to put himself in a position to furnish promptly the requirements in his line.

"If other material men are not awake to the situation, and are lagging, they should be prodded and made to see that it is suicidal for them not to care for the needs in their lines. It is not the needs that will be ignored, but themselves, for Baltimore's progress is not to be stayed.

"In my opinion, the only practical help to be afforded by the layman lies in the effort to eradicate, control or modify the abuses mentioned, and thereby give encouragement and support to legitimate builders who are thoroly competent and fully equipped in every particular to care for the situation in entirety."

* * *

The High Cost of Loafing

We are confronted by a condition, not a theory. Prices are high and show a tendency to go higher. Wages are high, with an upward trend. When prices rise, wages must follow; when wages go up, prices must keep pace. The wage earner demands that prices drop while wages remain stationary or even continue to go up; the employer of labor has about given over hope of declining wages.

To the demand for a solution of this puzzling mess there are many answers. We are not going to invade the field of the economist to venture an opinion upon the thousand and one panaceas that have been put forward, for we are not at home in that field. But there is one proposition that can be supported without any knowledge of the mysteries and economics; one that is mathematical in its simplicity, direct in its bearings, and clearly within our field.

If we hire a boy to pick blueberries at a dollar a day, and he picks ten quarts, the cost is ten cents per quart. If he doubles his output he cuts the cost to five cents. If he knocks off in the middle of the day to go swimming and reports at quitting time with only five quarts, the cost goes up to twenty cents a quart; and if he himself comes around the next day to buy blueberries, he may kick at the price based on this figure, but he must pay it.

All this is plain enough. There is no reason why the application of the principle in other fields should not be equally plain. If a linotype operator or a lathe hand or a carpenter or a railroad repair man or anybody else in the world loafs on his job and thereby cuts down his production, he automatically increases the cost per unit of his product. If he is working for the Government he may not thereby increase its price to the consumer—which means himself and everybody else; but even the Government, while it does not have to earn its keep, has to meet its deficits, so he at least raises taxes—his own and everybody's else.

In no uncertain terms President Wilson pointed out to the railroad men that the remedy for high prices is not decreased production. His remarks had to do with production decreased thru organized refusal to work at all; they are just as applicable to individual refusal to work, to work full time, and to work effectively. The world faces a shortage of every manufactured article, and at the same time a shortage of labor. It is perhaps natural, now that there are more jobs than men, for the worker to relax his efforts. It is understandable that he should feel that he need not hustle and that he is not going to hustle. But there will not be lower prices until he gets rid of that feeling.

The law of supply and demand is still doing business at the old stand—even in Russia, where it was officially abolished. If demand exceeds supply, prices **MUST** rise until demand drops to a level with supply. The only way you can possibly make 100 pairs of shoes go around among 200 prospective buyers is to put the price where half the buyers cannot reach it. On the other hand, if supply exceeds demand, prices **MUST** fall until they attract new buyers to swell the demand.

If the world is short of sugar and shoes, steel and wool and copper, automobiles and ships and houses, coal and wheat, the remedy does not lie in producing less of these

things. This is plain to the point of absurdity when thus put down in black and white; in practice, where it can be obscured by a hundred considerations which really have nothing to do with the matter, it may not always be so plain. It is always true, however, and always inescapable. There is just one way to force prices down under present conditions—that is for us all to pitch in and produce so much of everything that at the same time prices can and must go down. Cut the cost and boost the supply and prices must drop. But as long as we go on cutting the supply and boosting the cost by loafing on our jobs, prices will hold their upward course.—*Scientific American*.



STATUS *of* AUSTRIAN MAGNESITE INDUSTRY

THO THE TERM "MAGNESITE" is generally applied to the iron-bearing carbonate of magnesium, such as is found in Austria and Hungary, by some, Austrian magnesite is referred to as bruennerite. The mineral bruennerite has become of commercial importance only in Austria. The important deposits are found in Styria, lower Austria, and northern Hungary. The largest deposit of spathic iron ore, or iron carbonate (FeCO_3) occurs at Eisenerz, Styria, while the world's largest deposit of spathic bruennerite is found at Veitsch, in the same province.

The Styrian and lower Austrian deposits are located much nearer the Adriatic Sea than are the deposits of northern Hungary; and it is from the former that most of the exported magnesite has come. They are located southwest of Vienna, and extend west from Semmering thru the Murz Valley to Tyrol. The chief deposits reckoning from east to west are those of Semmering, Veitsch, Breitenau, Trieben, Radenthein and Dienten.

The largest and most important deposit is that at Veitsch, located near Mitterdorf, on the South Austrian Railroad in the Murz Valley, Styria. Here the magnesite, which occurs in the form of a lens, is quarried on the slope of a hill in a series of terraces about 50 ft. apart. The entire work extends thru a vertical distance of 500 ft. The huge magnesite lens is nearly three-quarters of a mile long and over 1,000 ft. in width, and probably extends to a considerable depth.

The formation containing the magnesite extends where magnesite is quarried beyond Jolsva and Nyustya, in the Gomer district. In spite of the remote location of these deposits as compared with those in Styria, magnesite was shipped from them before the war a distance of 360 miles to the port of Fiume for overseas shipments to other parts of Europe and to America.

The average analysis showing the composition of the mineral found in Austria-Hungary is as follows:

	Per Cent.
Magnesia	33 to 44
Lime	1 to 3
Ferrous oxide and alumina.....	2 to 7
Silica	1 to 5
Carbon dioxide	50
Water .....	.....

CHARACTER OF THE SINTERED PRODUCT

The magnesite occurs as lenticular masses in a belt of carboniferous rocks consisting mainly of metamorphosed shales, sandstones, conglomerates and limestone. It is grayish in color when fresh, and contains sufficient ferrous carbonate to blacken it when calcined. It turns brown owing to the oxidation of the ferrous carbonate when exposed to the air. The quantity of carbonate of iron is variable and different analyses show that it ranges up to 13 or 14 per cent.

For the most part, only the sintered article has been imported into the United States. This material has achieved an enviable reputation for its uniformity both as to chemical and physical characteristics. The homogeneity of the sintered Austrian magnesite is doubtless due in part to the averaging effect of the different operations, such as crushing, dressing, sintering and mixing, an effect which is not obtainable in mere hand samples.

There is comparatively little variability in the sintered magnesite as marketed, and five analyses of this sintered magnesite as quoted by Cornu¹ are as follows:

	Per Cent.
Magnesia (MgO)	85.53 to 90.07
Lime (CaO)	0.96 to 3.52
Ferrous oxide (Fe_2O_3).....	7.43 to 9.96
Alumina (Al_2O_3)	0.00 to 2.22
Manganese oxide (Mn_2O_3)	0.51 to .076
Silica (SiO_2)	0.26 to 1.34

QUARRYING AND PREPARATION

The methods of quarrying and preparing magnesite in Austria and Hungary are similar at most of the different plants. On the outskirts of the village of Veitsch, about 56 miles southwest of Vienna, is found one of the largest deposits, and one which has been worked the longest. Since the methods of mining and preparation here are fairly typical, they will be outlined.

As stated above, the magnesite quarry at Veitsch is worked in a series of steps or levels about 50 ft. apart vertically. The material is blasted out of the solid by the ordinary methods of rock quarrying. It is next broken in pieces which can be handled readily by one man, and the dolomite and quartz are carefully picked out. Even in the best of the deposit, there is a large quantity of this gangue material, and estimates of the waste rock vary from 50 to 66⅔ per cent. of all the material quarried. Terrace quarrying and working conditions in general like these at Veitsch are practiced at Breitenau and at Eichberg.

The coarse quarried material is cobbled to free it as far as possible from impurities like chert, dolomite and quartz, and the lumps are sorted. The cleaner portions of the magnesite are reduced to pieces about the size of a man's head. Less pure portions have to be broken into pieces about the size of a man's fist. These dressing operations involve a considerable loss of magnesite in the form of small fragments, too small to be burned in shaft kilns. The raw material thus obtained in the quarries at Veitsch is transported by gravity planes to the sintering kilns at the foot of the hill.

SINTERING TEMPERATURE

According to Morganroth,² continuous kilns of the bottle

¹F. Cornu, Z. Prakt. Geol., 1908.

²Bulletin, American Institute of Mining Engineers, No. 93, 1914, pp. 2345-2452.

variety are used and producer gas is employed as fuel. These kilns burn on an average of 15 to 24 tons of calcines per 24-hr. day. Within the last few years, a few plants have installed rotary kilns of the cement type to burn the magnesite, powdered coal being used as fuel. The capacity of these kilns is 50 to 60 tons per 24-hr. The magnesite can be burned as thoroly in these kilns as in the bottle kilns, but they have one disadvantage in that a larger per cent. of fines is produced. The magnesite as burned in the bottle kiln is drawn every 6 hours.

The sintering temperature varies from 1500 deg. C. (2350 deg. Fahr.) for bruennerrite containing considerable iron oxide to 1700 deg. C. (3100 deg. Fahr.) for material poor in iron oxide. However easily the material sinters, it appears desirable to carry the temperature up to at least 1500 deg. C. (2700 deg. Fahr.), but this temperature seems to be exceeded, as a rule, in the shaft kilns in Styria.

TREATMENT OF THE CRUSHED SINTER

The magnesite, after being drawn from the kilns, is quenched with water and crushed to walnut size or less. It is then classified mechanically by screening or sizing into three different sizes. Much of the caustic lime or calcined dolomite is removed in the first screening owing to its finely divided condition. From the screens it goes to the picking tables, where the underburned magnesite, together with the dolomite and quartz, present in particles too small to have been removed at the quarries, is picked out. These are light colored, and consequently readily distinguishable. The magnesite in the larger sizes is again crushed and the smaller pieces repicked. The magnesite is finally crushed to the size of kernels of corn, picked over again, and sacked for the trade in packages of 150 to 200 lb. each.

In recent years, magnetic separators have been introduced which have resulted in an economy in the picking or sorting operation. If not magnetically treated, the finely divided material marketed would necessarily contain particles of schist, quartz or other non-magnetic minerals. It must be said, however, that the magnetic treatment involves some waste, since only magnesite containing iron is removable by this treatment. It adds to the expense and is presumably employed only when it is necessary to obtain a concentrated, uniform and most highly refractory product.

In addition to the milling and sintering plant at Veitsch, where operations are as outlined above, there are other localities in Styria where work is done in a similar manner, for example at Breitenau, Trieben and in lower Austria at Eichberg, near Gloggnitz.

FUEL REQUIRED

The amount of fuel required to sinter Austrian magnesite varies and is dependent in part on the quantity of the ferrous carbonate present. With good flaing brown coal, having a heating value of 6,000 calories, the quantity required varies from 600 to 800 lb. per ton of sintered magnesite. The fuel requirement has been estimated by others at 1,000 lb. per ton of sintered magnesite produced. The latter coal, however, has a calorific value of only 4,000.

The abundance and accessibility of the brown coal used in sintering Austrian magnesite has been a very important factor in the cheapness of past production.

OTHER COMMERCIAL CONDITIONS

At Veitsch the marketable sinter is trammed on an aerial tramway about 4 miles long to Wartberg Station. The works at Trieben are near the station, which is located about 3 miles from the deposit at Sunk, where the material is quarried. At Pradenthein, work was begun by

American capital in 1908, and from that time till the war cut off the supply a great deal was shipped to Philadelphia, New Orleans and New York. The shipments from Europe were usually made thru the port of Trieste, and before the war ocean freight per ton was \$2.50.

The facts that the Austrian deposits are large and are easily quarried; that they are within easy reach of transportation facilities, and the additional fact that labor, at least before the war, was cheap have all tended to give Austrian magnesite commercial supremacy in the world's markets. These conditions, moreover, help to explain the success which Austrian magnesite has achieved in the past and indicate the possibility of the competition which it may be able to exert in the future. Only the massive deposits of the Veitsch type can be quarried and worked at a profit, however, and some of the larger deposits, not well located have been unable to compete in the past.—*Chemical and Metallurgical Engineering*.

* * *

Over Three Billion Needed to Provide R. R. Rolling Stock to Handle Coal Alone

According to T. H. Watkins of New York, president of the Pennsylvania Coal & Coke Corporation, who testified February 18 before the Senate Coal Committee, increases in cost of coal to the consumer since the war have been caused by advanced operating cost due to wage advances, strikes, intermittent car supply and augmented overhead expenses. He stated that the 14 per cent. increase in wages recently granted to bituminous coal miners would never have been necessary or demanded by the men if adequate transportation facilities had been afforded mines to allow consistent operation. Mr. Watkins said railroad offices estimated it would cost \$3,750,000,000 to provide necessary rolling stock to handle coal alone when roads are turned back to private management.

* * *

A. F. B. A. Eastern Red Division Meets

The Eastern Red Division of the American Face Brick Association held its monthly meeting at the Penn-Harris Hotel, Harrisburg, Pa., on February 12, with a good representation from the different manufacturing interests. The main discussion covered the present conditions in the trade and the general outlook, with emphasis on the proposed spring activities of the different face brick producers.

* * *

\$29,600 is Warehouse Advanced Labor Cost

The Bulletin of the Associated General Contractors cites an instance of a Minneapolis contractor who in 1915 erected a warehouse at a labor cost of \$49,000, and in 1918 a similar structure at a labor cost of \$78,600; "Engineering News Record" says, "Greatly lessened production per man is also a factor. Two men at \$2.25 a day did about as much work in 1914 as three men at present, each drawing \$4.84 a day."

* * *

Railroads Announce Reorganization Plans

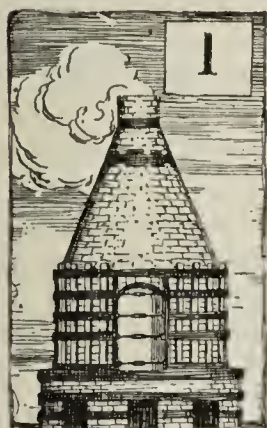
New York "Times" of February 23 states that corporate managers are rushing preparations to resume operation of their properties. Several large railroad systems have already announced their reorganization plans, calling for a division of systems into operating regions or divisions, and others have announced that they will return to private operation with their operating machinery virtually as it was in the years before Federal control.

FINE CERAMIC MANUFACTURE



A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products Such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

SOAP FROM CLAY



IT IS REPORTED in England that a revolution in soap prices may result from the discoveries of F. E. Weston, who has made a long series of experiments in the use of colloidal clay in soap manufacture.

Briefly, the effect of his discovery is that the washing properties of soap, derived at present from fatty acids from animals, and vegetables, can equally well, or even better in some cases, be supplied by colloidal clay. Colloidal clay is prepared from china clay, a product in which Great Britain is very rich, and if it is proved to be a substitute for the much more expensive fatty acids or if it can be largely used in conjunction with them, its use should produce a big drop in soap prices.

If colloidal clay is proved to be largely a substitute for fatty acids in soap making, there can be no monopoly of its use, except in so far as the actual supplies of clay are concerned. Any firm which can obtain the clay can use it. The only restriction appears to be that the clay used by Mr. Weston on his experiments is prepared by a patented colloidal process. It is understood that many varieties of clay both in Britain and other countries are adaptable to the process.

The important point for the public is that of cost. Pure commercial soaps usually contain from 60 to 65 per cent. of fatty acids, while the high quality "milled" varieties, may contain as much as 80 per cent. The higher the proportion of fatty acids the higher the cost and if these costly ingredients can be replaced by a cheaper and more plentiful substance, the result to the public should be much cheaper soap. It is not contended that these fatty acids can be dispensed with entirely by the use of colloidal clay, but Mr. Weston estimates that their present proportion could certainly be halved.



Record Established in Pottery Exports

While the general demand for American-made pottery products is increasing among domestic consumers, the demand for American ware among export buyers is advancing more rapidly and showing remarkable gains. Official records of the export pottery business for 1919 which have just been computed show that American china to the value of \$523,861

was exported during 1919, this being an increase in this one item over the 1918 export business of \$205,413. Earthenware and stoneware to the value of \$1,148,051 was exported during 1919, which is a new high valuation in the history of the American pottery industry, and an increase of \$364,474 over the exports of 1918. The exports of this line in 1918 showed a decrease from the business of 1917 which at that time reached a new high level of \$805,784. In December last only, earthen and stoneware to the value of \$81,374 was exported as against a record of December of 1918 of \$48,374.



Widely Known Pottery Manager Dies

John George, aged sixty-two years, president and general manager of the Cannonsburg (Pa.) Pottery Co., died of pneumonia at his home in Cannonsburg, February 17, after a brief illness. He was a member of the United States Potters' Association, and one of the members of the Kiln and Fuel Committee of that organization. Mr. George was born in East Liverpool, O., the son of the late Captain Will S. George, who in early life was one of the principal stockholders in the West, Hardwick Pottery Co., of East Liverpool, which is now the plant owned and operated by the Hall China Co. Mr. George learned the pottery trade from the ground up, and when his father removed to East Palestine, the two sons Will S. George and John also located there. Later both sons branched out as individual pottery operators.



No Let-Up in Pottery Activity

There is no let-up in the activities in the various potteries at Trenton, N. J., and all lines of production are engaging to the best possible capacity. The general ware plants are very busy, particularly those engaged in the manufacture of hotel chinaware, and the demand for products of this character is nothing short of astounding; potters have never seen anything like it in the years of their business. The sanitary ware producers are having no difficulty in placing orders for production; the big trouble is the difficulty in getting large enough output to fulfill current demands. The revival in construction work thruout the country is more than compensating those in this line for the dull times during the war period. The electrical porcelain plants are operating at high point of output, and heavy demands are being received from the big electrical manufacturers for specialties of this nature.



Offer Prizes to Students

Among those offering prizes to students at the School of Industrial Arts, Trenton, N. J., during the present year are the Trenton Potteries Co. and the Thomas Maddock's Sons Co. The first noted is holding up a purse of \$25 for the best averages in the electrical course at the institution, while the Maddock Co. is offering a similar amount

for the best work in applied ceramics and ceramic engineering. The ceramic course at the school is under the direction of Professor George H. Brown, Director, Department of Ceramics, Rutgers College, New Brunswick, N. J.



Sanitary Pottery Foreign Demand Growing

The growing demand for sanitary pottery among foreign buyers is one of the important features of that industry, as this demand has grown to a new height. The valuation of the exports of these products, consisting of closet bowls, lavatories and sinks, amounted to \$563,734 for the twelve months of last year. This is an increase of \$186,207 over the record of the same term in 1918.

Undecorated earthen stone and china ware imported by American buyers in 1919 totaled \$413,733, as against a record in 1918 of \$212,290.



New Bisque Porcelain Incorporation

The American Bisque Porcelain Co., of Boston, Mass., has been incorporated under the Massachusetts laws to manufacture bisque porcelain, with an authorized capital of \$100,000. The incorporators are George Litinski of Winthrop, Mass., and Rafael Susman and Clarence B. Benedict, both of Boston.



To Operate Ceramic Products Business

The New Jersey Tile & Marble Co., 258 Cambridge Avenue, Jersey City, N. J., has filed notice of organization to operate a ceramic products business, including floor and wall tile, and other specialties. The company is headed by Fred Williams, 544 Clinton Avenue, West Hoboken; and Charles



To Manufacture Floor Tile

The Tobias Tile Co., New York, has been formed with a nominal capital of \$5,000 to manufacture ceramic floor tile. F. Harris, S. and E. Tobias, 525 West One Hundred and Sixty-ninth Street, head the organization.



The Pittsburg American China Co., Pittsburgh, Pa., is planning for the early operation of its new plant at Greensburg, Pa. This plant will be provided with five tunnel-kilns, and will develop a large capacity in general ware. It is expected to be ready for service in the late spring.



The Summit China Co., Akron, Ohio, is planning for the erection of four new kilns at its plant. This company is operated by the George H. Bowman Co., Cleveland, Ohio.



The National Porcelain Co., Southard Street, N. J., manufacturer of electrical porcelain specialties, has had plans prepared for the erection of a two-story addition to its plant, 50x72 ft., to cost about \$20,000.



It has been announced from Naples that, in the opinion of American officials in Italy, more Italians will emigrate to the United States this year than in the record year of 1913, when 375,000 left that country for America.



According to estimates prepared by the president of the American Car and Foundry Co., New York, railroads of the United States will need 849,500 cars during the next three years.

The Value of Specializing

Concentrate on one thing and do that one thing well. There are numerous advantages in specializing—it makes for thoro knowledge, progress and efficiency; it brings about perfection in organization, system in plant activities and eliminates disruption in regular production. To specialize in the right way is one of the secrets of good, profitable business. Stick to what you know.

There is a growing tendency on the part of some ceramic plants to extend their lines of manufacture. Now that good times are again on the way, these plants are inspired with greater possibilities. This is all right as far as the ambition goes, for to expand in the right direction as a result of natural growth is the desire of every live and progressive business. But, in this haste and desire to reach out and increase output and income, a disaster oftentimes ensues. Stick to what you know.

Foresight is better than hindsight; to be attracted to a new branch of manufacture just because it *looks* attractive without knowing the real ins and outs, and to "go to it" with a meagre, surface knowledge is wrong—very wrong. Thought is a great thing, and never more so than when applied in the right direction. It leads to study and investigation, and these develop a defined knowledge. This knowledge is a vital element in new undertakings—it makes you stick to what you know.

A fire brick plant becomes interested in the possibilities of enameled brick; a terra cotta works becomes interested in fire brick; a chinaware pottery looks with longing eyes towards electrical porcelain, and so on. These impressions and these desires are justified, for it is this spirit of advancement that leads the world along.

But there are many factors to be considered and analyzed. Is the present machinery fit for the desired production on the right scale, and to allow consistent competition with plant especially equipped for such product; is the works location desirable as regards the primary market, and does this primary market present additional outlet possibilities; can necessary employees be secured and, above all, a man obtained to superintend and supervise who really knows the "game?"

These questions must be considered and answered, answered intelligently and logically. Many attractive things, seemingly so, come along. Big contracts often are the alluring bait for the uninitiated. The amount at issue looks so appealing; but, after the job is finished—then what?

Here's an instance which has recently come to notice. A floor tile manufacturer was induced to take on the manufacture of special wall tile for a certain big metropolitan contract; these seem like pretty kindred lines, but there's quite a distinction. The plan was revamped to suit the new manufacture, the tile turned out, but not with greatest efficiency, as might be expected. So in the final accounting, the presumed big profit became, in reality, rather a small compensation. Then followed the hunt for a market for the special tile, but this market didn't materialize. The old trade for the established floor tile, meanwhile, had been neglected and, consequently, reverted to other channels. An interesting situation, perhaps, but not to the man who owned the plant and who was responsible for the change. It resulted, practically, in going out of business.

This is only a single, simple example—but there are many others, and they teach—stick to what you know!



John E. Shingler has been named assistant manager of the United States Pottery Co., at Wellsville, Ohio.

The SUPERINTENDENT

Helpful Hints for Practical Men
Whose Problem is Maximum
Production With Minimum Cost

Some Notes on Power Transmission

In the consideration of the proper purchase of power transmission apparatus, the first thought should be the product which the plant is going to manufacture and as to whether or not it runs continually or only the usual eight or ten hour day, and what is the nature of the load; also, what atmospheric conditions the drive has to work under.

Considerable improvement in power transmission has been made thru higher efficiency of pulleys, chains, carriers and belts. The silent chain drive as made by the Morse Chain Co. and the Link Belt Co., the two oldest concerns making this product, has certainly been a long step toward making the transmission of power efficient.

The transmission of mechanical power is rarely scientifically laid out, but is generally done by the hit or miss method. When increased production is wanted, one of the first things to be considered is the power transmission apparatus, and it is usually the last, if considered at all.

Different conditions recommend different types of transmission. Assuming that due thought has been given to atmospheric conditions, place of installation, and so forth, a belt would be the only medium to use on drives where the load is of a rapidly fluctuating nature. In making this statement, it is not meant to exclude the belt from the countless other places where it is entirely suitable, but simply to illustrate where it is better than anything else, in fact, the only correct thing to use. A belt should be selected for variable loads for medium horsepower for the reason that one of the objections to belts, the slipping on the pulleys, becomes in this case a distinct advantage. A notable example is the splendid work done by belts on compressor drives, pumps and gas engines where gears or chain drives are not at all suitable.

In like manner for the driving of line shafts, machine tools, individual motor-driven machines, where high power and close centers are required, and where from time to time it is necessary to put on large overloads, there is no transmitting medium that is at all comparable to the silent chain, which, if properly installed, is probably the most satisfactory, highly efficient, and best all-around method of transmitting power in the ordinary industrial sense.

Cut gears also have their own field. They occupy less space than either chains or belts. They are efficient, durable, compact, positive in ratio, and for the power transmitted, very cheap compared to other ways of doing the same work. The great virtues of cut gears have been responsible for the development of the automobile today.

Considerable might be said of the various advantages of each one of these methods of transmitting power, and they have their own distinct fields. They should be selected not because they are preferred by some person who has used them before on different occasions, but because after careful study they are found to be best suited for that particular work, and no plant should be equipped exclusively with only one form of power transmission unless it is a very exceptional plant.

Boiler Efficiency and Chimney Gas Temperature

To measure boiler efficiency we are usually told to "find the heat in the steam evaporated by the boiler and divide it by the heat in the coal." In other words, boiler efficiency, like all other efficiencies, is equal to "output" divided by "input."

Why bother, however, about the steam at all if we know the quantity of heat that escapes thru the chimney? Can't we conclude that the heat that "doesn't" escape is absorbed by the boiler? To determine the output, then, simply sub-

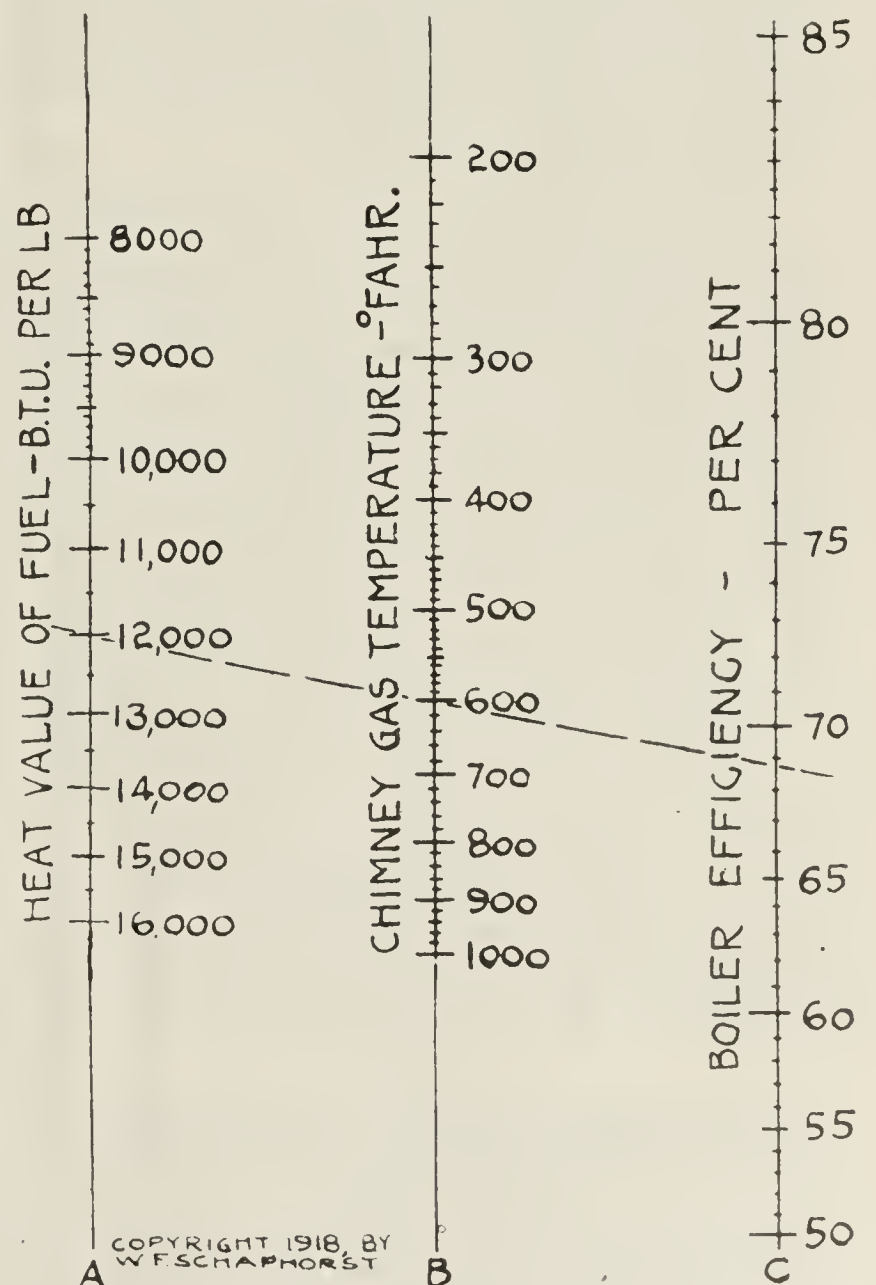


Chart Which Will Show the Approximate Efficiency of a Boiler.

tract the heat lost up the chimney from the original heat in the coal. On this basis of reasoning, therefore, we get this formula:

$$\frac{(\text{Heat in coal}) - (\text{Heat lost up chimney})}{(\text{Heat in coal})} = \text{Boiler efficiency.}$$

It is not easy to figure the "exact" amount of heat lost up the chimney, but it can be done with a fair degree of accuracy, if one knows the number of pounds of gases passing up the chimney in a given time. The trouble is, the quantity varies with the different coals and with the different firemen. A first-class fireman with a CO₂ machine can regulate the flow of air until it is "just about right." Perhaps he will use 18 pounds of air per pound of coal—perhaps more. Eighteen pounds is usually considered a "good" figure.

Rather than be guided by mere theory, the writer studied the averages of a number of authoritative tests where the boiler efficiencies varied from a trifle over 60 per cent. to nearly 80 per cent. The heat value of the coal was considered in each case, together with the temperature of the chimney or exit gases. As a result, the formula below was derived, which may be considered a good "rough" formula for computing boiler efficiency, provided the fireman is doing his level best to effect complete combustion. If the fire is poor, so that the gases contain a large per cent. of CO the formula naturally will not hold. This is the formula:

$$100 - \frac{625T}{H} = \text{boiler efficiency in per cent.}$$

where H = heat value of dry coal in B. t. u. per pound;

T = temperature of the chimney gases in degrees Fahr.

For example, what is the approximate boiler efficiency where the heat value of the coal is 12,000 B. t. u. per pound, and the chimney gas temperature is 600 degrees Fahr.?

Substituting in the formula we get:

$$100 - \frac{625 \times 600}{12,000} = 100 - 31.2 = 68.8 \text{ per cent.}$$

The accompanying chart will enable the reader to find the approximate efficiency of a boiler without doing any pencil calculating. Simply stretch a thread across the chart or run a straight line thru the heat value of the fuel, and the chimney gas temperature and the boiler efficiency will be found in column C. The dotted line drawn across this chart shows how the above problem is solved. The line runs thru the 12,000 B. t. u. and the 600 deg. Fahr. in columns A and B respectively, and in column C shows the boiler efficiency to be 68.8 per cent.

The chart will be found of further value for showing how important it is, always, to maintain as low a temperature in the chimney as possible. Thus, if you have a coal whose heat value is 12,000 B. t. u., swing a straight line about that point (column A) as a pivot. If you can reduce the temperature of the chimney gas 100 degrees the boiler efficiency will be found to be approximately 74 per cent., or an increase of about 5 per cent. So much coal is wasted up chimneys at the present time, in spite of our recent experiences, that it is hoped a study of this chart will clearly show the seriousness of high exit gas temperature.—*W. F. Schaphorst.*

* * *

The Fourteen Points of the League of "Safety Last"

For the benefit and further guidance to employes who are of the old-fashioned opinion that "Safety First" is all bunk, the following rules are promulgated:

1. Never take the trouble to turn over an upturned nail. A nail is a small affair, but very effective in producing blood poisoning and lockjaw. It is a shame to discourage the poor fellow in his very efficient program.

2. Never wear goggles, they look funny. Instead take a chance of losing an eye or two. This might open up bright possibilities for an easy lead pencil or shoe-string job. You will not be able to see your family, but it will be easy to see your finish.

3. Never think of the other fellow. Let him look out for himself. This shows a high degree of independence. Of course, you might kill him or maim him for life, but he has only eight children and should have sense enough to refuse to work with you.

4. If you work around machinery, an excellent method of improving your surroundings is to get drunk. The drunker you get the better. This usually results in you being removed to a suburban location amid quiet environments among quiet people, where the sunlight flickers athwart glistening stones. And you would be surprised if you could hear the nice things that are being said about you.

5. Do all scuffling and horseplaying near open elevator shafts, stairways or windows. This method opens a way for your wife to get a nice job in a livery stable. And think of the fun you had.

6. Always use a weak, rickety scaffold to work from. This is much more attractive since the war, as wheel chairs are not so costly as formerly; \$50 will buy a real nice one now, and if you take Johnny out of high school, he can earn enough money to buy one in a month or two. You can get lots of enjoyment out of your wheel chair by imagining it is an auto.

7. If your wife enjoys washing clothes, you will be able to indulge her in this little whim by disregarding any cut or scratch you may receive. Infection will soon set in and—Eureka! She can begin at once. And besides, science has developed some very nice artificial limbs since the war began.

8. If you are a foreman and a workman suggests a safety device for a machine, just forget it. If he should chance to get killed on this machine you will feel fine and his family will visit you very often (in your dreams). This is especially recommended for fat foremen, as it has a tendency to reduce flesh.

9. It is not probable, but it is thinly possible that you are possessed of brains. If you are and do not believe in "Safety First," of course, you do not want the disgraceful secret known. In a case like this the following method is outlined: On your way to work just climb thru a string of moving box cars. To make it effective, it is better to do this in sight of a large number of your fellow workers, and thereafter they will solemnly assert that you haven't a brain in your head. This system fools them all. Of course, to keep up the deception you should do this every once in awhile or somebody might get next. However, if you should be fortunate enough to fall between the moving cars you have got them fooled forever and no further effort is required to prove that you are without a modicum of brains.

10. Always wear loose, ragged clothing about your work, especially if you are working in a machine shop. This is the proof of a fine democratic spirit. They are your clothes and your legs and arms. You can do as you please with them. If you want to get rid of a limb or two you are on the right track, and the only complaint the foreman has is on the way you mused up the shop with your democratic gore.

11. If you happen to have a case of auto fever the method to follow is always to try to beat the engine to the crossing. This treatment has been known to cure some of the worst cases. It works better if you have your family or a few close friends with you in the auto.

12. Do not let anybody slip that old bunk to you about sanitation, hygiene or cleanliness. There is nothing to it. Be as dirty as you want to. Look how healthy a hog is.

13. Never watch your step. Roll your trucks up and

down the docks and thru doors. After knocking down a fellow workman and breaking a couple of ribs or smashing his shins, yell loudly, "Look out." They will appreciate these delicate attentions.

14. Never look to the right or left when rushing out of the building and into the path of trucks. And then stop in the middle of the road. The truck drivers will locate you presently and help put you on the stretchers. Truck drivers are very thoughtful that way.—*Selected*.

Safety and the Foreman

Enthusiasm is a healthful contagion, just as indifference is the opposite. Both are catching and the foreman who has enthusiasm will see it reflected in his men.

Nine times out of ten the foreman finds his men are thoughtless of safety if he thinks little about it himself. On the other hand, if he is honestly and earnestly interested in safety, so will his men be.—*Gary Works Circle*.



WHEN YOU WORK *for a* MAN

By William Feather

I BELIEVE that a man who works for another would give a much higher grade of service to his employer if he understood a few fundamental principles. In the following ten points an attempt has been made to bring out some of the factors which underlie this human relationship.

Your employer is in business to make a profit. Unless he makes a profit he can't stay in business. Keep this uppermost in your mind at all times.

Your wages are paid, not by your employer, but by the customers. Your employer simply stands between you and the customers. You always try to put on a good front when your employer is watching you—be just as alert to please the customers.

It costs your employer a lot more than he pays you in wages, just to have you around. He has to pay rent for the space you occupy, and he has to provide light, heat, furniture, wash rooms, pencils, pens, typewriters, machinery, etc. Out of your services he has to get enough to pay your salary first, and then he has to pay a host of other bills for things you never stop to think about. Not until he has met all his expenses can he receive his profit.

If you loaf one hour a day, your employer's profit on your work goes glimmering. When he fixes his price he figures that you will do as much work as you can in as short a time as you can. If you loaf when you ought to be working you are robbing him just as surely as if you took money from his safe. What is equally true, you are robbing yourself, tho you may not realize it.

If you work on a machine, the machine loafs when you loaf. This is double and triple expense. When you keep a taxicab waiting, the meter keeps on piling up charges. The same thing happens when you keep an expensive machine idle. The interest and depreciation on a \$10,000 machine is at least \$4 a day. Add in the rent for the space it occupies, the cost of repairs, and so forth, and it probably costs your employer \$8 or \$10 a day for that machine, and the charges go on whether it is used or not. When you loaf the machine loafs. Think of the lost money here!

Your employer doesn't expect you to spend more than a proper proportion of your wages on clothes, but if you hold a job which brings you into contact with customers he has a right to expect that your appearance be in harmony with the standards of the house. Neat and trim clothes are far more desirable than showy clothes.

The biggest asset your employer has is the good-will of his customers. Each satisfied customer represents real money to him. He is eager to please them, to see that their wants are promptly taken care of, to handle any complaints or adjustments quickly. He relies on you, as his representative, to do as he would do.

Of course, you only sell eight or nine hours of your time to your employer. The rest of the day is yours to do with as you please. But the man who hires you has a right to expect that you will give him your highest efficiency during the hours you are with him. You cannot do this if you have had only four hours of sleep the night before, or if you manage your personal affairs so badly that you bring a lot of worries to your place of employment. Lead a wholesome, natural life, in justice to yourself and your job.

One horse can pull more than a team of horses that refuse to work together. Your employer is doing his best to create and maintain a spirit of cooperation in his establishment. You can help him by putting your shoulder to the wheel and taking the load over the bumps.

Finally, get it clearly in your mind that your employer is not the only one who makes a profit out of your work. You get a profit yourself—the larger profit. Any job well done fits you the better for the next job. You are not paid wages when you go to school. You pay for the privilege of being taught knowledge and discipline. The training your employer gives you is in many respects more valuable than that which you gain in school. If you are diligent you can capitalize the experience thus gained just as you cash in on your school education.

Life and business are like an account at the bank. You can't take out more than you put in.—*Leslie's Weekly*.



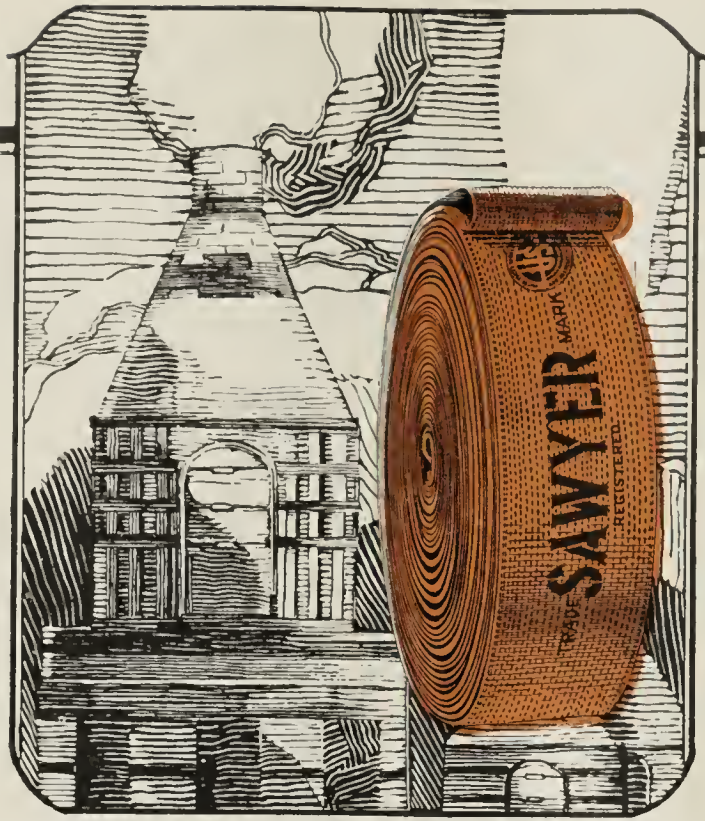
Tile Cheap in Corn Value

Tile for farm drainage has increased in price in the last ten years so far as dollars and cents are concerned, but not very much when the price of the tile is spoken of in the terms of bushels of corn, which the farmer sells to buy his tile.

According to David P. Weeks, of the agricultural engineering department at Iowa State College, tile is 34 per cent. cheaper, based on January 1 quotations of both tile and corn, than it was in 1911. Using the price quotations of a large tile factory in northern Iowa and the average farm prices of corn for the past ten years, the following interesting facts are found:

One thousand feet of 5-inch tile on January 1 of this year could be purchased for 35.9 bushels of corn. In 1911, 55.5 bushels of corn were necessary to buy the same amount, while in 1913, 61.1 bushels were required.

The greatest trouble the farmer experiences at present is the inability of the factories to fill the orders on hand, and although the prices are high they are not out of reason with other commodities.—*Better Iowa*.



The Efficiency of Your Entire Plant

depends on the kind of service you get from the Main Drive belt. If it slips or stretches—if it does not run true on the pulleys—your machines can't possibly give you the maximum production.

United States Rubber Company

*The World's Largest and Most Experienced
Manufacturer of Mechanical Rubber Goods*





*Sawyer 24-inch, 8 ply belt,
98 feet long, in a hollow Brick
and Tile Plant.*

For a quarter of a century in hundreds of brick plants, Sawyer Stitched Canvas Belting has been used for Main Drive belt, and no matter how bad the conditions might be, this belt has been the "backbone" of successful efforts to get maximum capacity.

The facilities and experience of the United States Rubber Company organization are at the disposal of belting users in the brick industry. One of our representatives will be glad to co-operate with you and to recommend the belting best suited to each of the drives in your mill.

United States Rubber Company

*The World's Largest and Most Experienced
Manufacturer of Mechanical Rubber Goods*



IN *the* WAKE *of the* NEWS

Being a Brief Mention of a Host of Interesting Happenings in the Varied Fields of the Clayworking Industry

D. J. C. Arnold Dies Suddenly

D. J. C. Arnold, for many years connected with the Arnold-Creager Co., New London, Ohio, died at his home in Oberlin on February 21, from neuralgia of the heart.

Mr. Arnold was born at Adams, Mass., on October 27, 1854, where he received a common school education, and in early manhood worked in a sawmill operated by his brothers. Later he established a machine shop, on a small scale, at New London, and soon became interested in the making of brick molds. From a humble beginning he built up a brick and tile yard supply factory, the product of which was not only in demand in all parts of the United States, but in Europe and in South American countries. The factory of the Arnold-Creager Co. was established and conducted for thirty-seven years by D. J. C. Arnold.

On account of impaired eyesight, which resulted in total blindness, Mr. Arnold was compelled to retire from active business life in 1912. In 1913 he left New London, taking up his residence in Oberlin.

Maine Industry Loses Pioneer Brick Man

Arthur K. Walker, a pioneer in the brick manufacturing industry in Maine, died at his home in Portland, Me., on February 11, at the age of 75 years. Mr. Walker started manufacturing brick when he was 20 years of age and continued the business for nearly half a century until his retirement a few years ago. Many of the largest buildings in Portland during that time have been constructed of material furnished by him.

Mr. Walker was born in Westbrook, a suburb of Portland, and for a few years after completing his education taught school and then took up brickmaking. He not only was one of the first to engage in this line in Portland but his business grew rapidly and he conducted several plants. During his residence in Westbrook Mr. Walker held a number of offices under the town and was considered one of its leading citizens. He had resided in Portland since 1894.

Mr. Walker's death was due to heart disease and was very sudden. He was apparently in his usual health during the forenoon of the day of his death and was taken suddenly ill about noon, dying a few moments later. A widow and three sons survive.

Making Short Business Trip

W. T. Matthews, sales manager of the Claycraft Brick Co., of Columbus, left recently on a trip to Cleveland, Detroit and Chicago, to look over the brick situation in those cities.

Brick Man Active in Politics

Charles W. Ennis, head of the Hanover Brick Co., Morristown, N. J., with plant at Whippany, is expected to be one of the delegates to the Republican Presidential convention from this district. Mr. Ennis is also head of Charles W. Ennis & Co., dealer in mason materials, and is promi-

nent in political circles and civic affairs in this city. Both of his companies are prosperous and thriving; the brick plant is operating at extensive capacity, with orders far ahead of production, while the building material business is receiving orders for a large volume of work in this territory.

Riddle Now With Jeffery-Dewitt

Many friends of Frank H. Riddle are still uninformed of the change he recently made which now makes him director of research for the Jeffery-Dewitt Co., of Detroit, Mich., manufacturers of porcelain products. Mr. Riddle was formerly with the United States Bureau of Standards at Pittsburgh, Pa., where he has done considerable valuable research in porcelain products. He has also been connected with various clay products concerns on the west coast.

Larkin Succeeds Singer at Lincoln Pottery

L. P. Singer, who has held the post of chief ceramic chemist in the terra cotta department of the Gladding, McBean Pottery at Lincoln, Cal., for over twenty years, has tendered his resignation and is succeeded by Mr. Larkin, formerly of Colorado. Mr. Singer was considered one of the best ceramic chemists in the country and to his skill has been given much of the credit for the excellent type of polychrome terra cotta produced at the Lincoln plant.

C. B. Platt Addresses Dealer Convention

C. B. Platt, secretary of the Permanent Buildings Society was in attendance at a meeting of the building supply dealers in Des Moines, Ia., late in February, at which steps were taken for the organization of a state dealers' association. Mr. Platt addressed the meeting informally on the attitude of the clay manufacturers towards dealer distribution.

On a Southern Trip

Robert Taylor, Jr., residence manager of the Hocking Valley Products Co., of Columbus, left recently for Georgia and other southern cities to visit the southern agents of the company.

No More Booze in Columbus

Columbus has lost its *booze* man that M. C. Boone has moved to Worcester, Mass. Mr. Boone was formerly assisting R. T. Stull at the Ceramic Experiment Station, United States Bureau of Mines, Columbus, Ohio, but has transferred his activities to the Norton Co.

Will Go Back to California

F. E. Keeler, of the Mason City (Ia.) Brick & Tile Co., who made his annual winter sojourn in California, returned to Iowa recently to attend to matters of business at the plant, but will go back to California for the remainder of the winter season.

Visit Face Brick Center

Visitors in Columbus, Ohio, recently were: W. J. Dengerhart, of the John H. Black Co., of Buffalo, jobbers in brick and clay products; Albert B. Klein, of Sunderland Bros. Co., of Omaha, Neb., and H. S. Black, of the Hay Walker Brick Co., of New York City.

William J. Burke Passes Away

William J. Burke, president of the American Clay Products Co., in Manhattan, N. Y., died suddenly, after an illness of only two hours, at his home in Flatbush, on February 23. He was 45 years old.

New Incorporation at Birmingham

Papers of incorporation have been filed in the probate court by the Birmingham Hollow Tile Co. The concern has an authorized capital stock of \$15,000. Headquarters are in Birmingham. The officers are, R. L. Gamewell, Birmingham, president; W. E. Gamewell, Memphis, Tenn., vice-president, and A. B. Gamewell, Birmingham, secretary and treasurer.

To Erect \$100,000 Plant at Lewisburg

A big brick and tile plant is to be erected by the Birmingham Clay Brick & Tile Co. between Birmingham and Lewisburg, Ala., at a cost of approximately \$100,000, according to the announcement of Harry Watkins, president of the company. The concern is capitalized at \$200,000, and it is stated that work will be started shortly. The plant will be located on a 25-acre tract of land near the Louisville and Nashville Railroad and near the paved highway from Birmingham to Lewisburg. The principal offices of the concern will be located at the plant at Lewisburg. The plans call for the construction of 16 kilns, to be heated with coal mined on the company's property. According to the opinion of George H. Clark, mining engineer and geologist, there is more than 7,000,000 tons of the finest shale on the property in addition to three coal veins. All of the raw material for the manufacture of brick and tile is located on the site.

The plant will have a monthly production of 40,000 tons of construction tile, and will employ about 125 men, running day and night shifts.

President Watkins has had more than 25 years' experience in the brick and tile business. The other officers of the concern are A. S. Holberg, vice-president and treasurer, and Arthur Watkins, general manager and assistant secretary.

The output of the plant will be marketed by the Birmingham Hollow Tile Co., of which R. L. Gamewell is president.

Brick and Hollow Tile Prices Take Another Jump—Plants Can't Keep Up With Orders

During the month of February, brick and hollow tile prices took another jump in San Francisco. Manufacturers state that the increase is due to numerous labor difficulties and the continued rise of production costs. Plants in this vicinity engaged in the manufacture of brick, tile and other building materials of clay origin, are doing their best to keep up with orders, but all report an under-production due to the exceptionally strong demand for their products. Building activities in San Francisco and the bay districts are active and have been so during the entire winter. The housing facilities are still way below the needs of the population.

Rent rates do not seem to have reached the peak as yet; a sure indication that more structures are required before normal housing conditions again prevail. The types of structures now being erected call for a considerable amount of brick and other clay materials in their construction, particularly with the prices of lumber what they are.

In other portions of the state, builders are facing a real brick famine. Thru the valley sections of California, where many commercial structures are being erected calling for quantities of common brick, it is said by contractors that the local yards are about depleted when it comes to filling orders of any size. Most of the yards are now awaiting 1920 production in order to carry on a satisfactory volume of business.

Plans now in the architects' offices are piling up in such fashion that building material dealers look for a continuation of the present state of activities for the rest of the year at least—in fact, it is the opinion of a number of local builders that the demand for materials will be carried on for perhaps a much longer period.

Seeking to Admit Hollow Tile in Riverside City Fire Limits

At a recent meeting of the city council of Riverside, Cal., a committee was named which has been authorized to investigate the building ordinance relating to the use of hollow tile. A request has been made that the ordinance be amended so that hollow tile construction be permitted in the city fire limits. The committee will not only investigate the merits of hollow tile construction but will revamp the building ordinance relating to it. The committee is composed of City Engineer Albert Braunschweiger; G. Stanley Wilson, architect and contractor; J. V. E. Titus, of the Albers Olive Co.; William A. Johnson, president of the National Bank of Riverside, and Claud Hancock, local contractor.

Exeter Plant Improved, Soon to Reopen

L. E. Hays, manager of the S. P. Brick Co., states that the plant at Exeter, Cal., is fast being brought up to the mark and will soon be in condition to turn out brick. The plant has been closed for some time on account of conditions during the war period, but with the rapid growth in the demand for brick, it has been decided to resume operations on a larger scale than ever before. Many new and up-to-date machines are being installed which will increase the former output very materially.

Building Hollow Tile Factory and Hotel

The contract has been let for the erection of a one-story hollow tile factory building at 2643 Artesia Street, Los Angeles, Cal., to be occupied by the Batchelder Tile Co., of that city. The structure will measure 200 by 125 feet.

A one hundred room hotel is to be erected of hollow tile at Atascadero, Cal., which will cost between \$400,000 and \$500,000, according to a recent report.

Want to Establish Fire Brick Plant

J. C. Vaughn, of Ione, Cal., is at the head of an organization which is interesting itself in the production of various clay materials. Mr. Vaughn, together with J. C. Cass and H. S. Dennis, has made a tour of the country surrounding Ione and is convinced of a market for the products. Raw material is easily available and it is the intention of these gentlemen to establish a plant for the manufacture of fire brick and other clay products.

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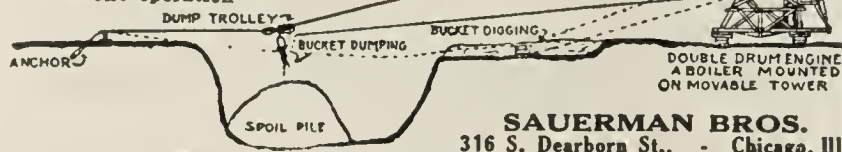
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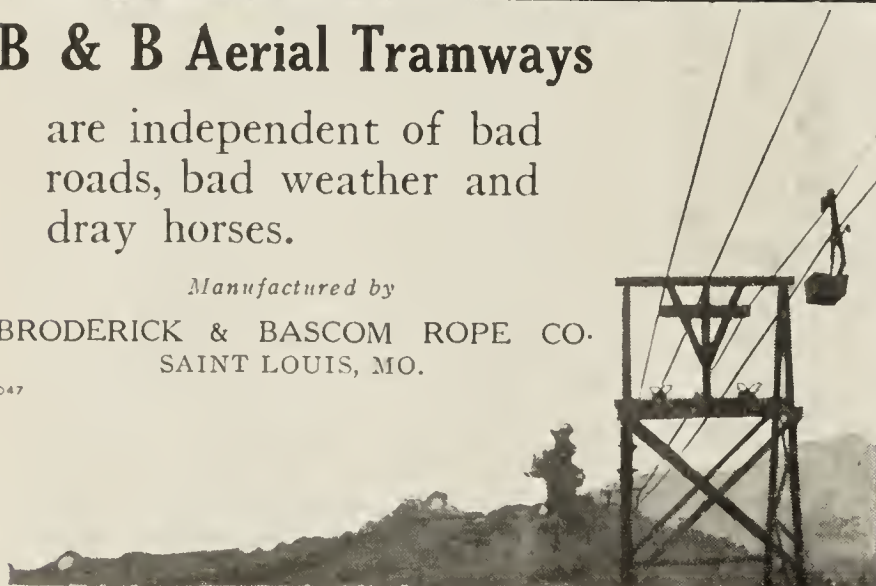
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Has Large Tile Contract for Honolulu

D. A. Cannon, of Cannon & Co., Sacramento, Cal., manufacturers of interlocking tile, announced a short time ago that his organization has received a contract for furnishing tile for the construction of nine government warehouses in Honolulu. All the material is to be manufactured at the Cannon & Co. plant in North Sacramento, Mr. Cannon says.

S. P. Brick Plant to Reopen Soon

The plant of the S. P. Brick Co., at Exeter, Cal., which has been closed for some time, is being put into first-class condition and will soon be reopened for the manufacturing of brick. Many new and up-to-date machines are being installed and the output will be materially increased. About 20 men will be employed.

Santa Barbara Faces Brick Shortage

According to recent reports from Santa Barbara, that city is facing a brick shortage. One contractor announced that the situation was so serious that there will be no available brick for new buildings until after July 1. The local yards are sold out and the rains during the early part of February delayed work to some extent.

\$30,000 Brick Building Going Up at Hanford

Construction has been started on a brick building at Hanford, Cal. Brick will be used in the entire construction. The building consists of one story and basement and will cost in the neighborhood of \$30,000.

Considering New Dry Press Machine

The Delta (Colo.) Brick & Tile Co., which has been idle since last fall, expects to open up shortly with enough orders on hand to keep it running at full capacity for a whole year. The proprietors are considering putting in a new dry-press machine.

Brick Exchange Elects New Officers

At the recent annual meeting of the Central Connecticut Brick Exchange, Hartford, Conn., the following officers were elected for the ensuing year: George Todd, Hartford, president; J. C. Lincoln, Berlin, vice-president; Frank H. Holmes, secretary and acting manager; George Todd, treasurer. The directors in addition to the above are: Joan A. Murray, Berlin; Reginald Towers, New Britain and J. C. Todd, Middletown.

Face Brick to Encounter Active Market

Building materials of all kinds are in good call at Wilmington, Del., and particularly so in the matter of burned clay products. The past fortnight has brought about a noticeable increase in inquiries for forthcoming work, and the big problem in the local trade is that of securing materials for this activity. While orders are being placed ahead, the manufacturers give no assurance of early delivery and the situation in this respect is not very satisfactory. Common brick is easily the leader among the basic commodities, with present price ranging around \$22 and \$23 a thousand; good common stock is obtainable at these figures. Face brick has been moving a little slow due to the season, but projects now in sight show that this material will encounter an active market in a short time. The quotations for

available selections range from \$45 upwards in carload lots. Hollow building tile, clay tile partition, drain tile, sewer pipe and other burned clay, as well as terra cotta specialties are in active demand, with prices holding very firm.

Anticipate "Boom" at Wilmington

Every week is showing increasing activity in building operations at Wilmington. The outlook for the forthcoming spring and summer seasons is very bright and if projects go ahead as now anticipated, this city will see a small sized "boom"—and maybe large sized, at that. The work in sight aggregates many thousands of dollars and includes projects of all kinds, factories, dwellings, public buildings and so on. The realty market is very active, and transfers of property from day to day are mounting up into six figures with apparent ease. Immediate work includes the erection of a new four-story building at Delaware Avenue and Tatnall Street for the Wilmington Automobile Co., to cost about \$400,000; and two new brick warehouses for the Wilmington Leather Co., with front of tapestry brick and terra cotta trimming. A project now being perfected embraces the erection of three new theatre buildings to cost about \$1,000,000: the structures will all be located on Market Street, and sites have been secured.

Bricklayers Cause Uncertainty in Building

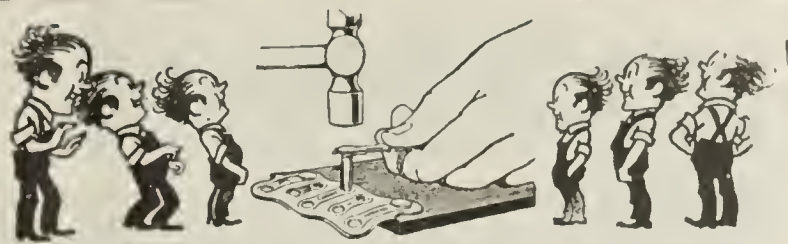
Bricklayers at Wilmington, Del., are bringing about a little uncertainty in the spring building outlook by refusing to enter into agreement with the Master Masons' Association for a wage scale of \$1.25 an hour, effective May 1, 1920, and to be in force for the year following. This is an advance of 15-cents over the present schedule, and at a previous meeting in January, the men indicated their willingness to accept this rate. At a gathering on February 16 of the committees of both interests, the bricklayers stated that they wished the wage question to remain open in order that the scale could be established at a figure commensurate with living costs, and there was no guarantee that such costs would not advance to still higher levels as the year went on.

Washington Building Centers in New Homes

There is fair activity in building circles at Washington, D. C., but the important interests in the industry are seemingly awaiting the real spring season. As a consequence, operations are not, by any means, at a high point, nor at the status as anticipated in the weeks to come. The building department has been issuing permits to an amount of over \$200,000 a week, or closely approximating \$1,000,000 a month, and the bulk of this construction is centered in new homes. Recent applications include the erection of thirteen brick residences on Webster Street, to cost about \$150,000, and six similar dwellings on Sixteenth Street. An interesting industrial project is the proposed new bottling works of the American Products Co., to be located at Twenty-fifth and G Streets; this structure will cost about \$50,000. The National Capital School Betterment Council is arranging an extensive building program to include the erection of new school buildings to cost about \$5,000,000; these structures will be of 24-room type, instead of 8 and 16-room schools, as heretofore used in this section.

To Increase Capacity to 66,000 Daily

The West Brothers Brick Co., Washington, D. C., is operating at good capacity at its brick plant just over the Potomac River in Virginia. This plant has an output of about 60,000 brick per day at the present time, and it is



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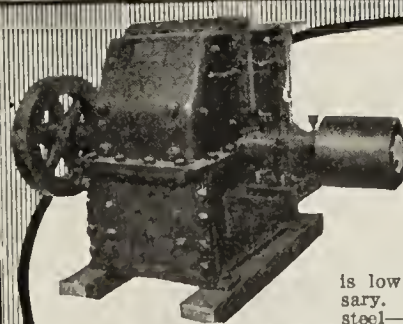


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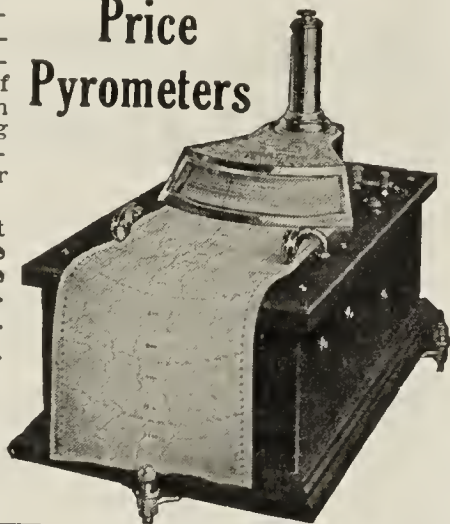
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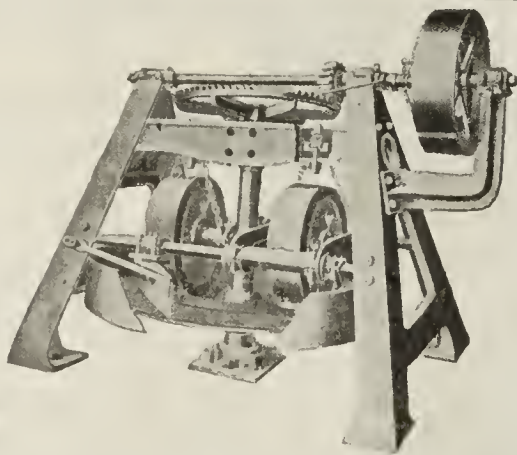


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THE EAGLE DRY PAN



Write for Prices

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proposed to increase this to 66,000 brick at an early date. The company has its own clay properties at this point, equipped with steam shovel and other apparatus for effective production. The plant is now being operated on the piece-work system, the average hours running from about 7 a. m. to 2:30 p. m.; three gangs are employed. The company has orders well ahead for spring production and has been furnishing a large number of projects in this section. The prevailing price of brick is now \$19.20 delivered within a radius of seven miles. A fine quality of brick is manufactured, and it finds a ready market thruout the Washington district.

He Believes in 100% Cooperation

"I returned last July," writes B. Bruce Lamond, "and reopened the plant the first of August. Since then I have bought out the business and am running it under the name of Lamond's Sewer Pipe Works, Lamond, D. C. I have bought all new machinery and expect to put out a full line of clay building products this year. To show you that I believe in 100% cooperation with the building supply dealers, I will state that I appeared before the building supply men at one of their association meetings at Washington, D. C., and pledged them my cooperation. I believe that I have most of their business at the present time."

Enlarging Plant to Meet Demands

The Whitney (Fla.) Brick & Mfg. Co. is making extensive improvements and additions to its plant at Whitney, in order to meet the demand for Florida brick, which, on account of the high cost of transportation, is coming into general use, whereas much Georgia brick was formerly shipped in.

Columbus (Ga.) Plant Expanding

The Columbus (Ga.) Brick & Tile Co. has been incorporated and will operate the plant recently purchased and which was formerly owned by the Shepherd Bros. Brick Co. In addition to manufacturing building brick, they will make interlocking tile. The Gamble & Stockton Co., one of the largest brick manufacturing and material distributors in Florida, recently purchased this plant and will operate it under the title of the Columbus Brick & Tile Co., both companies having the same officers, as follows: President, Telfair Stockton; vice-president, Robert Gamble; secretary-treasurer, C. W. Dixon.

The Columbus company is enlarging its facilities and while the former output of the plant was 60,000 brick a day, the plant, when completed, will turn out 125,000 brick and 150 tons of tile daily. C. W. Dixon, secretary-treasurer of the company, will be in charge and have his headquarters in Columbus, Ga.

Record Broken by Projected Buildings Cost

February was the biggest month for builders in Chicago's history, it is reported. Permits for buildings to cost \$10,417,700 were issued by the city building department. Only twelve apartment building permits were included in this valuation, however. There was also a falling off in the number of permits issued, but the cost of the structures breaks the department's record.

The figures compared with January of this year and February, 1919, follow:

Kind.	Jan., 1920.	Feb., 1919.	Feb., 1920.
Stores	94	47	108
Residences	220	135	141
Apartment buildings	6	11	12
Total permits	328	197	276
Total costs	\$7,682,000	\$1,758,150	\$10,417,700

S. E. Bliss New Director

The records of the Illinois Brick Co., Chicago, show net earnings of \$355,909 for the year ending December 31, last, this comparing with a deficit of \$236,920 in 1918. S. E. Bliss has been made a director, taking the place of George C. Prussing.

Iowa Shortage in Drain Tile

At the present time there is a decided shortage in Iowa in drain tile production. A number of the county agents of the state have had numerous requests from farmers for this class of products and have not been able to find a supply to meet the demand. The falling off in this production is attributed to the tendency on the part of most Iowa plants to concentrate on hollow tile building blocks as the state is now getting ready for a wonderful season of building activity.

Contemplate Extensive Improvements

In the reorganization of the Morey Clay Products Co., of Ottumwa, Ia., following the death of D. F. Morey, the active management has been taken over by the president, J. C. Parks. Dan F. Morey, Jr., is no longer associated with the company. Omer Smith, of North English will continue on the board in an advisory capacity. Mr. Parks is contemplating extensive improvements on the plant which will materially increase the output.

Rockford Plant Making Improvements

The Rockford (Iowa) Brick & Tile Co. is adding an Eagle planer to its equipment as well as new pyrometers for the fourteen kilns. Among the other improvements in progress at the Rockford plant is a club room for the men. A room formerly used as a boiler room has been nicely outfitted. The company has subscribed for a number of magazines to place in the club room and is contemplating serving hot coffee to the men during their lunch hour.

Publishes "Newsy" House Organ


The Auburn (Iowa) Brick & Tile Co. has started the publication of a little bulletin which will serve as a house organ. S. J. Galvin is editor of the bulletin and the idea is to give the men the general news of the trade and at the same time keep before them some of the problems which the operators have to contend with in the shape of labor questions.

Iowa Concern Adding Equipment to 3 Plants

The Iowa Clay Products Co., of Keota, is remodeling its plant and has added a modern waste heat dryer; a new Corliss engine has been installed at the Richland plant and at the Wellman plant work is being done which will facilitate the clay handling and drying.

Will Issue Hollow Tile and Brick Booklet

The Permanent Buildings Society, Des Moines, Ia., has in preparation for early distribution a twenty-four page booklet



"The Chain of Double Life"

UNION STEEL CHAINS

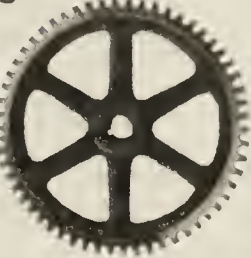
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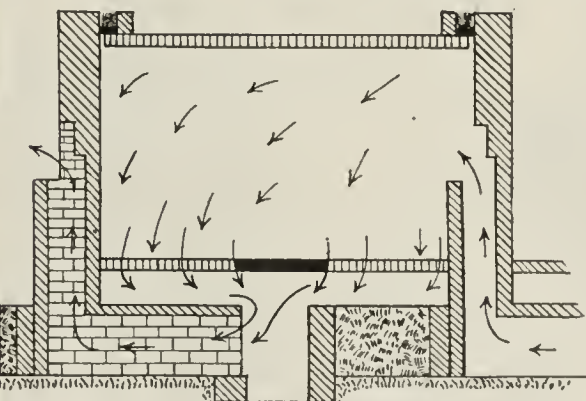
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St. Louis, Syndicate Trust Bldg. Detroit, Book Bldg. San Francisco, Monadnock Bldg.



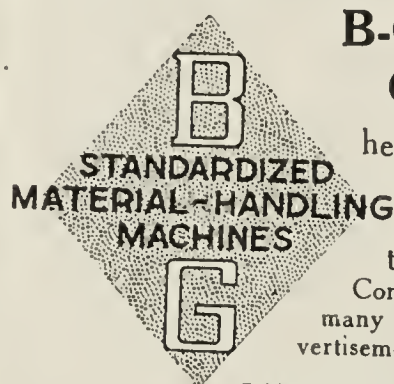
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Mailing
Lists St. Louis

on Hollow Tile and Brick in Permanent Construction, giving detailed instructions as to their use. The booklet is handsomely illustrated with cuts and drawings and will be one of the best booklets ever issued by the society.

To Improve Clay Mixtures

The Mason City (Ia.) Brick & Tile Co. is making extensive improvements on its central clay handling plant with the idea of bettering the clay mixtures as well as increasing the handling capacity of the plant.

Car Situation Slightly Improved

James T. Howington, of the Coral Ridge Clay Products Co., Louisville, Ky., in discussing conditions, said: "Car supply is slightly better than it was, and we are now getting about fifty per cent. of our car requirements. The plant is running at full capacity, and hopes eventually to be able to make 100 per cent. deliveries. There is a general shortage of production all around, and it is a well established fact that the brick manufacturers are not going to be able to supply the full demand for material this season. However, the same situation appears to be true in the lumber and general building trades, with the result that brick construction will come in for a very fair share."

Tyler Co. and Warren Bros. Consolidate

The R. B. Tyler Co., Louisville, Ky., recently consolidated with the firm of Warren Bros., thereby getting Harry C. Warren as sales manager. This concern handles building specialties, and contractors machinery, and has been in the local business for several years. William Featherstone has been named as manager of the brick department. Guy Warren, formerly active with Warren Bros., has been in Chicago for some time past.

Clay Products Prices Again Advance

Brick and other clay products have advanced again, due to increased cost of fuel and higher wages for labor. Common brick are now quoted at \$18.50 f. o. b. Louisville, while face brick are quoted at \$31.50. Tile (hollow building) is quoted at forty-five per cent. off the universal list, which makes the price about \$11 a ton for all sizes, f. o. b. Louisville, Ky.

Opens New Brick Sales Office

W. E. Whaley, formerly with the R. B. Tyler Co., who recently opened a brick sales office of his own at 107 Todd Building, Louisville, Ky., reports that he plans to handle everything in the clay products building line, including brick, roofing tile, hollow tile, sewer pipe, drain tile, etc. He reports that he has arranged to represent the United States Brick Co., Tell City Ind.; Huntingburg Pressed Brick Co., Huntingburg, Ind.; Albion Shale Brick Co., Albion, Ill.; and Key-James Brick Co., Chattanooga, Tenn. He has lines out for six or eight additional accounts with Ohio and Pennsylvania manufacturers. Mr. Whaley lost considerable time last month thru being down with an attack of influenza, but managed to handle several excellent sales, and reports progress in his new undertaking.

Plants Resuming Operations this Month

A number of brick plants have been down during the past month due to cold and rainy weather. However, the Progress Pressed Brick Co., Louisville, Ky., took advantage of the interim to do some machinery overhauling that it had

planned for some months; and the Southern Brick & Tile Co., has just resumed operations. The Lexington (Ky.) Brick Co. is also going again.

✱ ✱ ✱

In January of this year Louisville, Ky., had 236 building permits, for construction costing \$515,660, as against 66 permits costing \$95,801 in January, 1919, an increase of 257 per cent. in number and 438 per cent. in value being shown.

Maine Highway Work Contemplated for 1920

The construction of about 150 miles of state highway in Maine is the program contemplated for this year, according to the annual report of the state highway commission, just issued. Surveys for the work have been completed and steps have been taken to have the projects approved by the federal government with a view to obtaining federal aid.

Baltimore to See Greatest Building Boom

Construction activity at Baltimore, Md., is reflected in the records of the local building department, and the volume of work for which plans have been filed during the past fortnight sets forth an aggregate of which any city of this size might well be proud. The feature of this immediate work is dwellings of brick type, and among the active interests in these operations is the Columbia Building Co. This company has taken out permits for no less than 164 homes of this kind since the middle of February, the majority to be two-story high, and representing an aggregate cost of over \$335,000; these structures will be located on McElderry, North Clinton, East Monument, North Bouldin Streets and other thoroughfares. As to the industrial operations, they are coming along just as strong; during the month of January, eight new industries were located in the city, and 14 of the local manufactories announced plans for general expansion, including the erection of a number of new factories. Large work is going forward in the industrial sections at Sparrows Point and Fairfield, as well as Brooklyn, and heavy calls are being made on the Baltimore material dealers for supplies for this work. The spring season now looms ahead, and if activity of the big nature evidenced goes forward in the winter months, what is going to happen under the ideal season days for construction work? The answer is found in the prophecy of those in the local trade, and this, that Baltimore is going to see the greatest building boom ever seen in this district.

Higher Prices to Ensur?

There is no let-up in the demand for burned clay products and other building materials at Baltimore, Md. The local dealers are more than busy, and to keep stocks up to the desired point is no small problem, in certain cases it is next to impossible. The call for building brick continues strong, and there is no change in prices; good grade material is obtainable at about \$22 and \$23 a thousand, altho some dealers, handling out-of-town production are asking considerably more. Clay tile partition blocks are advancing to higher levels, and other items such as drain tile, fire clay, etc., bid fair to follow this trend. With the advent of the spring season and the anticipated increased call for supplies, it is said that higher prices will undoubtedly ensue.

✱ ✱ ✱

The Bacon Hill Clay Co., Baltimore, Md., is enjoying its usual good business in its different standard specialties, and is maintaining a good stock of materials for forthcoming

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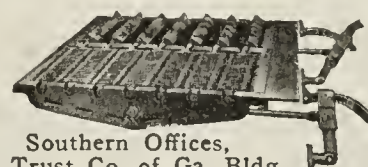
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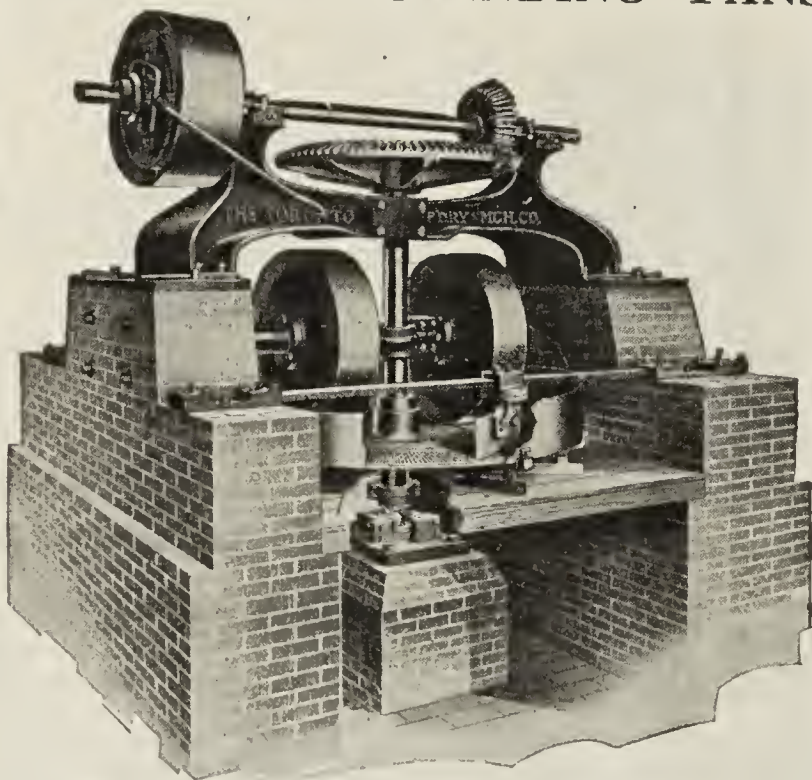
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operations. The company deals in terra cotta clays, fire clays, and high-grade pottery clays, as well as kaolin and special sand. Three local plants are operated.

Boston Brick Drops One Dollar

Weather conditions in Boston in February were such as to make deliveries of brick, as well as other commodities, well nigh impossible except in the very heart of the city proper. The result was that the market eased up slightly and some dealers reduced their quotations to \$29 per thousand, a dollar under the previous figure. The lower price, however, generally is considered only temporary and in some quarters it is said that an advance beyond \$30 is possible during the present month. Building operations also suffered from the extreme weather conditions but the setback was only brief and already recuperation is apparent. Brick manufacturers are hopeful that the very severe February may result in an early spring which will enable them to resume operations in the yards soon. They expect to experience no difficulty in disposing of all the brick that can be turned out this summer and are anxious to get production started. What the labor situation will be is still problematical but in many quarters there is a feeling that help will be more plentiful than last year altho everyone expects to be obliged to pay higher wages.

Michigan Concern Incorporated at \$300,000

L. C. Briggs, Geo. P. Anderson, Thomas A. Lawler, Edward L. Ewer, Frank H. Bement, James E. Payne, M. F. McGrath and C. F. Short are the incorporators of the Briggs-Michigan Clay Co., the new \$300,000 company which was granted a charter at Lansing, Mich., recently. The company has a crew of men busy at the plant recently bought at Grand Ledge and it will be ready to resume operations very soon. Plans have also been completed for a common brick plant to be built at Durand, which will have a capacity of 150,000 brick daily. The Briggs-Michigan Clay Co. will have headquarters in Lansing and part of its output will be sold by the Briggs Co.

Heavy Fire Loss at Detroit Plant

A spectacular fire of undetermined origin, destroyed the brickyard of the Walker & Frank Brick Co., Detroit, Mich., on February 12. The blaze could be seen for miles as 20,000 gallons of crude oil went up in smoke and flames. Two carloads of coal were also consumed. An accurate estimate on the loss will be difficult, according to Charles J. Frank, president of the company, until the damage to the machinery and other equipment can be ascertained.

To Manufacture Floor Tile Too

The Pengilly (Minn.) Brick Co. which will open up early in March, is planning to manufacture floor tile in addition to brick. This will give employment to 25 or 30 additional men.

Builders Delay Account Inflated Prices?

While brick and other clay products manufacturers a few weeks ago were confident of a ready resumption of big sales this month, the situation seems to have a new aspect. While not so much affected by their products, the building materials market in general may suffer a pre-season slump, some manufacturers say, because of the fact that prospective builders are delaying on account of inflated prices. Speaking of the situation in general, which affects their output as

well as any other, brick manufacturers hold that there has been a tendency on the part of investors to take bids on projected work and then defer the work pending decision on the part of the owners on the flow of prices. One St. Louisan, familiar with the situation, pointed out the danger of deferring projected construction because of the fact that manufacturing conditions and deliveries, re-acting, are apt to affect prices. While unwilling to go on record, it is believed by many manufacturers in the industry that they have just cause for complaint in view of the price activities of other kinds of building materials. While their products have remained comparatively consistent, lumber, mill products and other supplies and materials have soared. Whatever result this will bring about, with buyers just launched on the 1920 building season, it will affect brick manufacturers, it is said, as well as other kindred industries.

While some manufacturers, alarmed by the price situation several weeks ago, believed that an almost complete suspension of selling and a reduction of output would bring about a readjustment of the situation, less conservative and more fore-sighted men advocated a progressive policy. "Construction projected for this season," said the head of a St. Louis plant several weeks ago, "is vital construction and will not be scared away by present price conditions." So, it shortly proved, projects of size were only temporarily halted, and, as the actual building season begins, they are reappearing again and certain of materialization.

But brick manufacturers, they say, will be affected, if at all, only in a general way by any price reaction, to which contractors are giving less concern as work advances. Another angle, which may or may not appear far-fetched, was advanced recently by a material dealer. What effect will the return of the railroads have on the price of building materials this season? It was pointed out that the clay products industry could not be affected directly but that construction in general, thru further inflated prices and consequential scarcity of money for building loans, could possibly be injured by a wholesale action on the part of private ownership to rebuild and repair their properties. Already the steel industry is making ready for an unprecedented business.

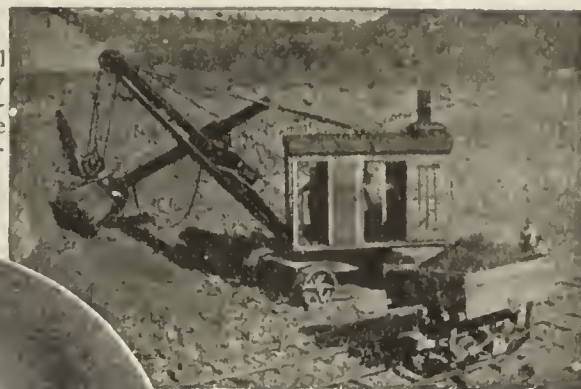
In general, the attitude of the brick dealers in the St. Louis district is to urge other manufacturers of building supplies to let the situation take care of itself. As one manufacturer said, there is sufficient business in the offing for every one for the next eight or ten years if trade conditions can be stabilized to help the readjustment period.

Contract for 80 Brick Dwellings to be Let

Much attention is being given by brick manufacturers to the contract for eighty brick dwellings which is to be let this month by the St. Louis Home and Housing Association, the \$2,000,000 organization formed to relieve the housing situation. There is more importance attached to the contract than is demanded by the size of the work, for it will be the first awarded by the association and the low bidders will have the advantage of being first in the field when further work is undertaken by the organization. Manufacturers realizing this are making unusual efforts to get the material contracts, and brick men especially so, since all of the buildings to be erected during the life of the association will be of brick.

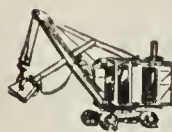
The eighty dwellings will be the first of several blocks which will be erected this season. The first building will be started April 1, it was announced recently by Nelson Cunliff, secretary-manager of the association. Mr. Cunliff, who

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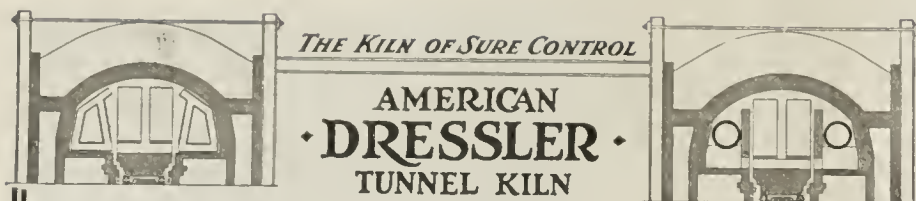
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It can be done by the use of Rollin's Barium Carbonate because it eliminates scum.

Just add it to your clay at the pug mill or dry pan and it will make the scum-producing salts insoluble and harmless to your ware.

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BRICK MUST HOLD UP ITS REPUTATION

is well known to builders and manufacturers in the St. Louis district, was recently made a member of the city plan commission of St. Louis.

First General Motors Building Completed

The first of the buildings of the General Motors Co.'s new St. Louis plant, which involves one of the largest brick jobs in the city recently, was announced as completed March 1. It represents an investment of \$5,000,000. Other major buildings are being rushed to completion, one to be ready April 1, and another May 1. Almost every one in St. Louis interested was attracted by the smoothness with which the first unit of the big plant was erected. Despite the fact that building operations on the plant have been conducted under what is said to be the highest wage scale ever paid in St. Louis, the work has progressed without one tie-up of any kind and entirely without labor trouble. As one instance, electricians were guaranteed \$100 a week and their transportation was paid to St. Louis and return to their homes. Many made much more than this figure.

Weather Hindrance to Jersey Construction

Weather conditions are the only hindrance to building construction in New Jersey. Actual work on the job has been difficult during the past fortnight on account of severe cold and snow, but this does not mean that plans cannot be developed for spring enterprises and operations of this nature have been going ahead in an encouraging way. Architects and engineers in different cities of the state are very busy, while building material dealers and contractors are being called on for bids and estimates. With the indefinite situation as regards labor and material prices, the majority of construction bids are on the cost-plus basis and this is not very satisfactory either to prospective builder or contractor. Thus projects are being held in abeyance which would otherwise go ahead. Those in the industry in the various trade centers, as Newark, Trenton, Paterson, Jersey City and points in South Jersey, have no cause for complaint; current operations are keeping everyone "on edge" and the little clouds in the spring outlook brought about by high prices seem destined to dispel without any serious effect. Buildings of all kinds are needed and needed badly, and these must go ahead almost regardless of price conditions, provided, of course, that construction material can be obtained. This latter is one of the big questions of the hour, and to prophesy now as to the situation in the spring and summer months to come is simply guesswork. Relief is being given to the soft coal shortage in Northern New Jersey; fuel of this nature has been very hard to obtain in any desired quantities, owing to the railroad embargo. The Pennsylvania Railroad has now lifted its ban and shipments of coal are now reaching the different cities, much to the satisfaction of manufacturers and other industrial interests. The only thing that is now delaying matters, it is said, is the congestion resulting from the recent storms.

Government Compensation for Seized Land?

Thru the efforts of Charles A. Bloomfield, Metuchen, N. J., head of the Bloomfield Clay Co., property owners at Bonhamtown will receive compensation from the Government for the land used for the Camp Raritan Arsenal at this place, at least, this will be the case if President Wilson signs the bill (Bill No. 8819) which has recently been approved by Congress. About 200 persons thruout Middlesex County are

affected and Mr. Bloomfield, himself, is vitally interested. The Army Department, closely following the declaration of war by this country, not only seized a large portion of his valuable clay lands, but took over his dock and private railroad, making it practically impossible for the Bloomfield Clay Co. to operate. Measures introduced in Congress recently provided for payment of seized land in other parts of the country, but omitted this property in New Jersey. Thru conferences with Senator Frelinghuysen, supplemented by numerous trips to the "heart of things" at Washington, Mr. Bloomfield has succeeded in having the measure approved, and his aggressiveness and activity in the matter have been the subject of editorial comment in a number of the important dailies in the state. Mr. Bloomfield celebrated his seventy-first birthday anniversary on February 25, but rather than being seventy-one years old, he is seventy-one years "young."

\$30 Brick Reigns Supreme in No. N. J.

Building materials are operating under a good call in all parts of New Jersey—the matter of demand is not worrying the dealers, rather the big question is one of supply. Common brick leads in the matters of inquiry and the large projects calling for the use of this material show that manufacturers will have to "step" to keep up with the call as the spring season opens. Price is seemingly no primary factor in the situation as far as the prospective house or factory owner goes, and thirty dollar brick is "reigning supreme" thruout Northern New Jersey. At Newark, the price is \$30.50 delivered on the job, while at Paterson and vicinity, the quotation is \$30 even. At Morristown, out-of-town material is closely approximating this latter figure, while local production is selling for a few dollars less. Thruout South Jersey the price is ranging from \$26 to \$30 per thousand, while at Trenton, a point of manufacture, around \$25 is asked. This section of the country is looking to the West, and particularly to Chicago, wondering how \$14 brick can prevail in these parts. Every week hereabouts seems to make for a slight advance, if only the fractional part of a dollar. Other burned clay products are in active demand, including hollow tile, fire brick, drain tile, sewer pipe and kindred specialties. The face brick market is holding fairly well, but with noticeable shortage when it comes to variety of selection.

Fords Works Acquires More Land

The Raritan River section of New Jersey is feeling the "pinch of winter" as regards clay mining operations, and work of this character has been curtailed to a point to provide for only immediate necessities. The manufacturing industries in the ceramic lines in this district, however, are going ahead at a good pace, and production is being maintained at the highest possible point. Abel Hansen, president of the Fords Porcelain Works, Perth Amboy and Metuchen, has acquired a large tract of property from the Atlantic Terra Cotta Co., at Lehigh Avenue and Stanford Street, Perth Amboy, adjoining its plant in this section; the land consists of a total of twenty-two lots on what is known as the Chapman property, and has been secured for a consideration of about \$75,000. A clause in the agreement prohibits the use of the land for the manufacture of terra cotta products prior to 1935. The Fords company is one of the thriving, progressive organizations in this district, specializing in the manufacture of sanitary earthenware, porcelain ball mills, porcelain linings for ball mills, and kindred products.

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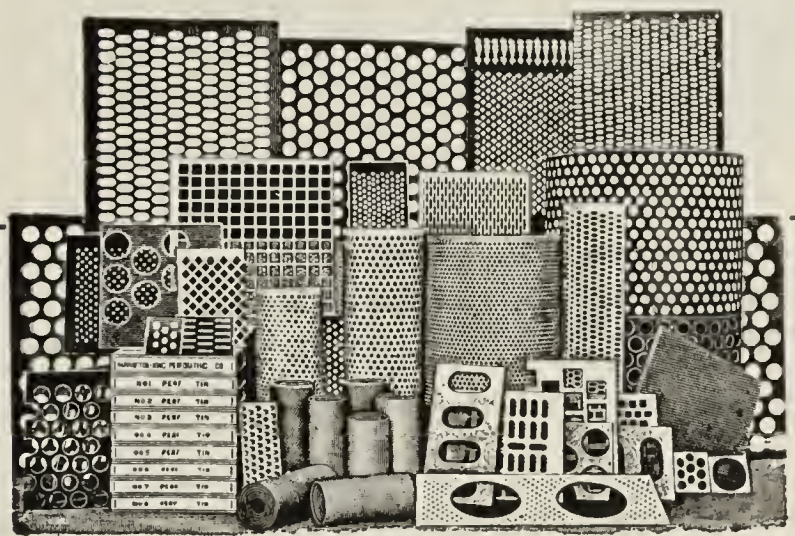
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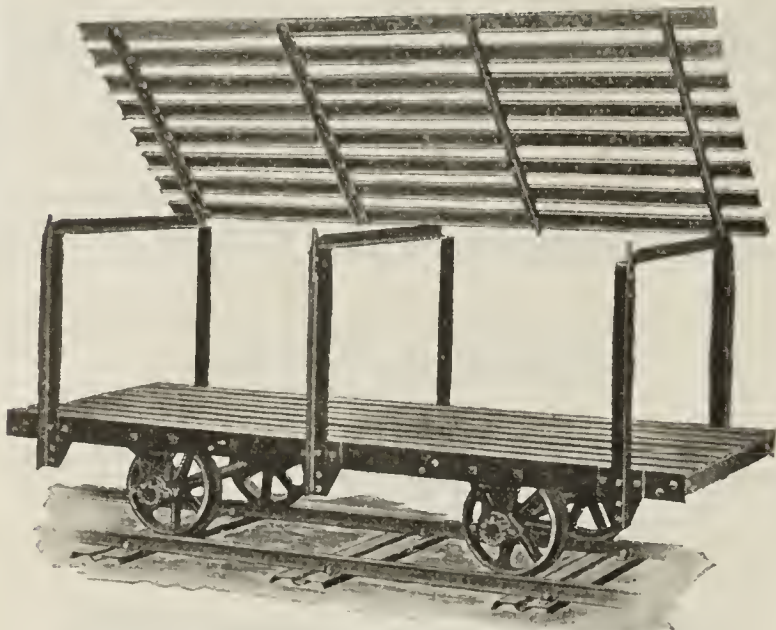
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N. Y. Labor Situation Seems About to Clear

Building operations at New York are going forward at a fair pace, despite the weather conditions, but the bulk of attention is riveted on advance projects. The spring work thruout the greater city looms big; numerous operations are in prospect, covering structures of all kinds, apartments, hotels, offices, industrial plants and dwellings. The work will approximate many millions of dollars and is expected to develop a phenomenal call for building materials of all kinds. Among the projects are a twenty-two story annex to the Stock Exchange on Wall Street, estimated to cost about \$3,000,000; two new six-story apartment buildings at Washington Heights to cost about \$500,000, of brick construction; and a twelve-story, brick and limestone office building at Broad and Front Streets. Offices of engineers and architects are piled high with work, and contractors are more than busy with advance estimates. The labor situation in this district, which has been far from good for the past few weeks, seems about to clear; the bricklayers' strike to all appearances is nearing an end, other building labor is rather getting in line to stop further "bickering" for the time being. Continual arguments between employer and employe is certainly not going to improve things, and is likely to bring higher prices and deplorable inactivity. The big demand for homes in the Brooklyn residential section is causing builders and material men to bend every effort to place work of this kind under way.

11,000,000 Brick Stocked in N. Y. Market

Investigations in the common brick market in New York indicate that the constant talk of shortage which has been going the rounds for the past few weeks is without entire justification. The available supply at the present time is sufficient to care for all immediate demands, and with only one more month of winter, spring deliveries will soon be on the way. Close to 11,000,000 brick are now stocked in this district at the yards of the different material dealers thruout the greater city, while of this aggregate, about 1,500,000 are in the Manhattan area. In the wholesale market, there is a quantity approximately of 4,000,000 brick from the Hudson River yards on hand, and a number of barges still await unloading. Thus, with about 15,000,000 brick in sight, famine conditions can hardly be said to exist. The price, wholesale alongside dock, holds at \$25 a thousand, with prevailing figure of \$30.45 delivered on the job. Quotations have been removed from second-hand brick, but the figure is close to \$46 per load of 3,000 brick, delivered. Leading producers are of the general opinion that the "peak" prices have been reached and that no further advances of any account will ensue during the year, on the contrary, a recession is anticipated as the spring and summer seasons come around, with stabilized wholesale market price ranging around \$20 per thousand. With the closed river, producers in the up-state districts are sending brick into the market by rail, and quite a little activity has been going on in this direction.

Fire Brick Drops to \$63 in N. Y.

During the past fortnight, the New York building material market has had a chance to "catch its breath." With snow-bound streets and inclement weather, actual deliveries have been at a minimum, and dealers have had an opportunity to look ahead. Every effort has been made to place orders for additional supplies, but actual bookings for anything like reasonable delivery are far from satisfactory. With a

threatened shortage of basic burned clay products, it is reasonable to anticipate advance in price levels, and this has been the case in flue lining and partition tile. Interior clay tile partition, 2x12x12 in. is now selling for \$103.20 per 1,000 sq. ft., delivered on the job; 3x12x12 in., \$165.10; 4x12x12 in., \$185.70; and 6x12x12 in., \$247.60. On the other hand, fire brick of No. 1 grade has declined a few dollars, being now quoted at \$63 a thousand, delivered.

To Manufacture Various Clay Products

A new company to be known as the Aircraft Ceramics Corporation has been organized in Brooklyn, N. Y., with a capital of \$25,000. The company will manufacture burned clay products of various kinds. The incorporators are C. H. Biltman, J. F. Tolins and J. M. Rappaport, 170 Parkside Avenue.

Daily Output of 50,000 Brick

The Peerless Brick Co., recently incorporated at Concord, N. C., with a capital of \$100,000, is going ahead with the installation of machinery, which has all been purchased at a cost of about \$12,000. The daily output of the plant will be 50,000 building brick.

* * *

The Clay Securities Co. has been incorporated at Charlotte, N. C., to manufacture brick and other clay products, with an authorized capital of \$100,000, and \$500 subscribed by W. R. Taliaferro and H. A. Norson.

Promised Early Relief from Car Shortage

Final acquisition of their properties by the railroad interests March 1 is looked upon by brick and clay products dealers in the Cleveland and Northern Ohio territory as the first step toward relief from a situation that, in the minds of some leading interests, spells disaster for the clay products industry if it continued.

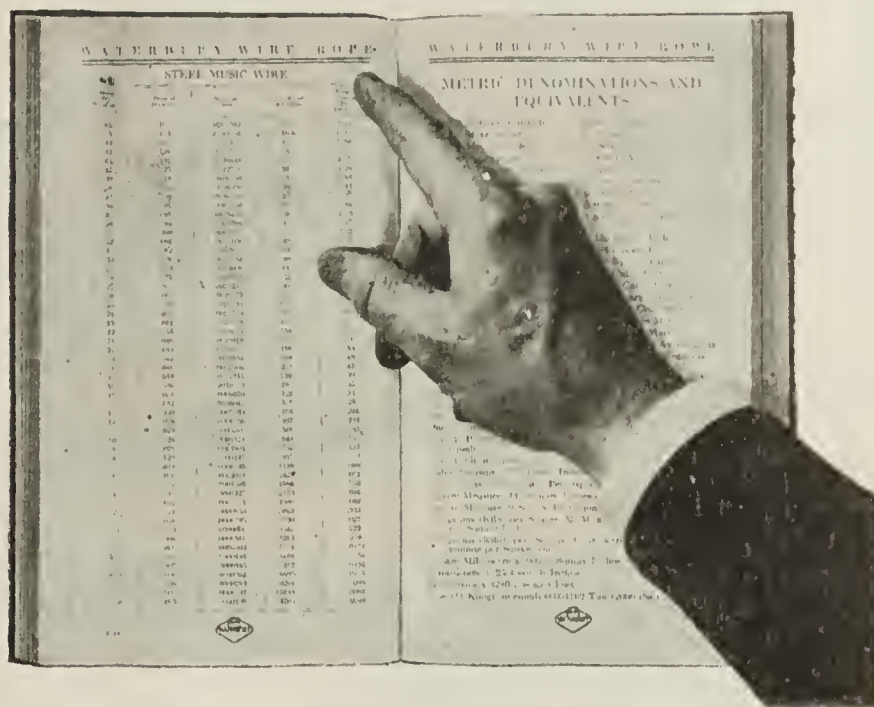
Altho other industries have for months past been confronted with a condition that requires that prices be quoted upon delivery of merchandise rather than upon placing of orders, the brick industry has not suffered from this condition up to the present. Beginning March 1, however, leading distributors in the Cleveland district point out that many manufacturers have adopted this policy. The reason offered, according to R. L. Queisser, who has been making a tour of manufacturing establishments, is that there are not sufficient cars to move the material at this time, and that the costs of production are rising between the time that orders are received and deliveries can be made to distribution points. Whatever the reason, Mr. Queisser, voicing the sentiment of the distributors as a class, is of the opinion that considerable loss will be sustained by the industry, because this policy of quoting upon delivery will make for severe competition for those dealers thus affected, with those who have a set price to work upon.

"From the promises we have had from the private owners, that there will be early relief from the car shortage, we feel more hopeful for sufficient carriers to give us material promptly, and thus eliminate the serious competition now in prospect," says Mr. Queisser.

Drop in Permit Valuations

Building permits issued by the Columbus, Ohio, building department during the month of February numbered 103, which was two more than the number issued in Jan-

WATERBURY STEEL MUSIC WIRE



From the smallest Waterbury steel music wire with a diameter of half a hundredth of an inch, to the largest, 32 times that size*, the accurate drawing, uniformity of stock and correct tempering are just what you would expect of Waterbury quality. And quality is the only economical basis on which to select music spring wire. "Peerless" is the Waterbury brand. Look for both names on the roll.

WATERBURY COMPANY

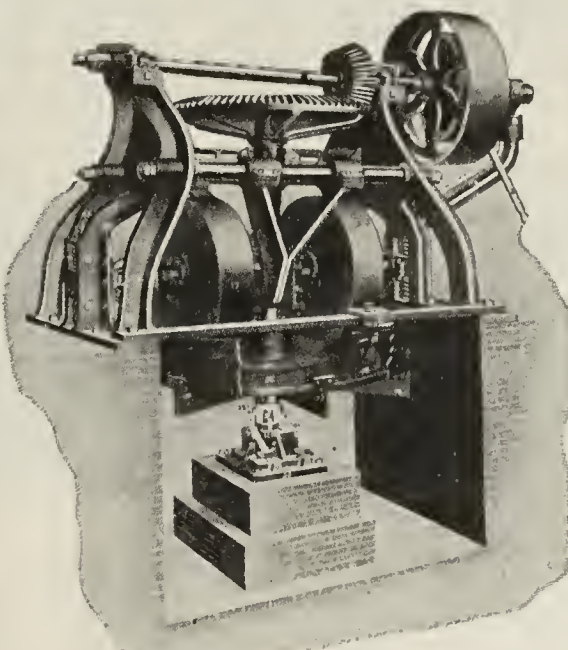
63 PARK ROW, NEW YORK

Chicago
1315-1321 W. Congress St.
San Francisco
151-161 Main St.

New Orleans
1018 Maison Blanche Bldg.
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A. T. Powell & Co.

*The Waterbury Rope Handbook is not only a complete manual on all kinds of rope, but also contains a section on music spring wire—tables and other data. Ask for a free copy. It will be mailed promptly.

2328W



Machines for

Crushing, Grinding, Pulverizing, Empounding, Tempering and Mixing, Elevating and Conveying All Kinds of Materials.

STEAM PRESSES FOR MAKING

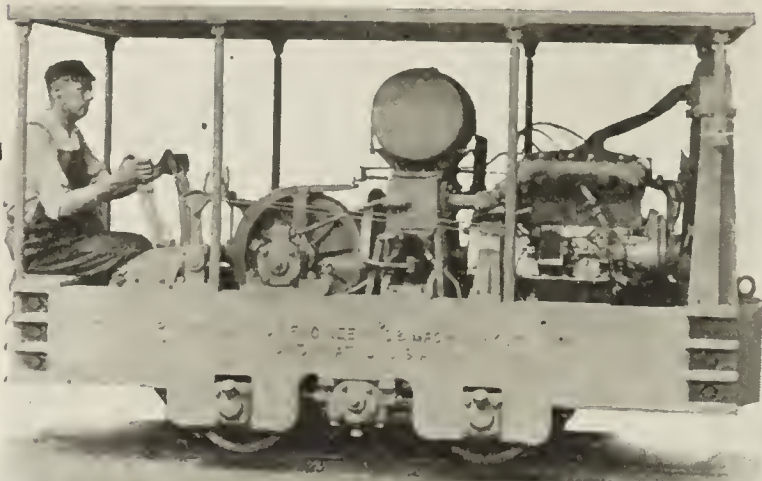
Sewer Pipe, Drain Tile, Hollow Blocks, etc.

All of the highest class designing and construction are manufactured by

THE STEVENSON COMPANY

General Offices and Works: WELLSVILLE, O.

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CHICAGO, ILLINOIS

Haul It Economically

DISTANCE MEANS NOTHING IN HAULING YOUR CLAY WITH A **BURTON**

Gasoline or Kerosene Locomotive

Built with Maximum Simplicity, but strong. For Fast and Economical hauling. Burns gasoline or kerosene. Always ready. Any speed forward or reverse with equal power. Reversible fan blades which insure ample cooling at all times. Simple to operate.

Write for Illustrated Booklet.

THE BURTON ENGINEERING AND MACHINERY CO.
CINCINNATI, OHIO, U. S. A.

uary, but the valuation showed a big drop. The estimated cost of the structures is \$494,605, as compared with \$954,975 for January. In February, 1919, the department issued 167 permits for buildings having a valuation of \$571,470. Weather conditions have not been the best for building operations, and in addition labor troubles are now appearing. Then another cause is the tight money market, which is restricting home and apartment building. Building and loan associations are not as liberal in making loans as formerly on the plea of the tighter money market. But these conditions are expected to be temporary, and it is believed that there will be a lot of building when the spring finally arrives. Contractors and architects are busy on plans and specifications and many larger building projects will go forward. At least they are being planned, and if labor troubles do not interfere, they will be carried out.

Superior Brick Co. to Double Plant Capacity Originally Planned

Contract for the construction of buildings for the Superior Brick Co., Cleveland, Ohio, were awarded this week to Joseph Cassidy, that city, and construction has been started. About \$60,000 will be expended in the construction of a machine room, boiler room, dryer, kiln shed and miscellaneous buildings. Present plans call for the completion of the plant before June 1, when actual brick-making is expected to start. The company has twenty-six acres of land at the Jennings and Valley Road intersection, adjoining the Baltimore and Ohio tracks. An 1,800 foot switch has just been completed, and this will be used to facilitate the building of the plant proper. The Superior plant is one of the closest to the city limits of Cleveland, being only half a mile from the Harvard-Dennison bridge. It is the expectation of J. F. Aten, president, that the ultimate daily capacity of the plant will be 200,000 common brick a day, double the capacity originally planned upon.

Overwhelming Demand for Face Brick

John T. Baker, sales manager of the brick department of the Hocking Valley Products Co., Columbus, Ohio, reports an overwhelming demand for face brick in Central Ohio and from all sections. He says that the plant at Glendale is working on full time with a good supply of labor. One of the worst features is the car shortage, which is holding up shipments to a large extent.

Increases Capital to \$100,000

Papers have been filed with the secretary of state increasing the authorized capital of the Ohio Clay Products Co., of Uhrichsville, from \$10,000 to \$100,000 to permit of additions to the plant at that place.

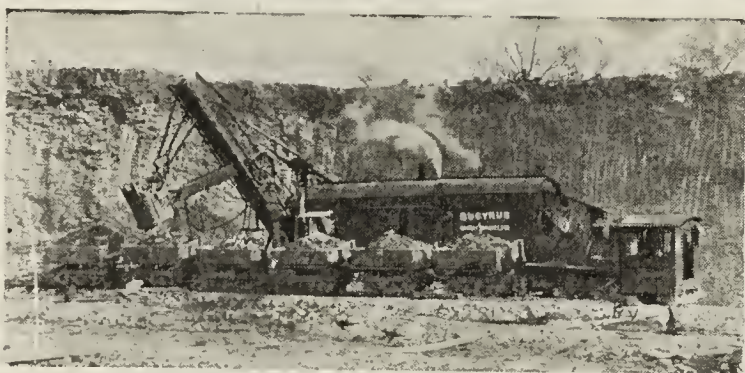
Commons Bringing \$23 to \$26

There is a strong demand for common brick in Central Ohio territory and prices have again been advanced. Common brick are now selling around \$23 and \$26, and in some instances higher, delivered on the job. Shipments into Columbus have been delayed because of car shortage, and many jobs are being held up as a result.

Will Specialize in Common Brick

The Laughray-Hatton Brick Co., of Hatton, Ohio, has been chartered with a capital of \$55,000, to manufacture

BUCYRUS



For Digging Shale

The massive construction and great power which are found combined in

Bucyrus Steam Shovels

have made them famous the world over for long life, economic operation, high steady output and power.

Let our representatives tell you what they can do for you.

110-C—3½ to 6 cubic yd.	78-C—2½ to 3½ cubic yd.
103-C—3½ to 5 cubic yd.	68-C—2½ cubic yd.
88-C—3 to 4 cubic yd.	

Also all sizes revolving shovels and dragline excavators.

Send for Bulletin AB

BUCYRUS COMPANY

SOUTH MILWAUKEE, WIS.

New York, Chicago, Cleveland, Birmingham, Minneapolis, Denver,
Portland, Ore., San Francisco, Salt Lake City, London 187

brick and other clay products. For the time being the concern will specialize in common brick. The incorporators are R. M. Ferguson, H. A. Stewart, J. D. Rhoades, L. B. Kreke, and B. Scott.

Hoytville Concern to Make Clay Products

The Hoytville (Ohio) Clay Products Co. is the name of a new industry which is being organized, mostly by local capital. The company will manufacture high grade clay products, including drain tile, paving blocks, hollow tile and common brick.

Will Increase Capital to \$400,000

The Okmulgee (Okla.) Brick Co. will increase its capitalization from \$80,000 to \$400,000 and will not only increase its manufacturing power by the installation of two new units, but will diversify its product. Plans of the stockholders also call for construction of many houses for the workmen employed at Gaither, where the present plant is in operation.

Steady Call for Commons in Philadelphia

Important construction operations are becoming more and more prominent at Philadelphia and vicinity, and projects now on the boards of architects and engineers indicate that this will be a busy spring building season thruout this section. During the past few weeks, industrial work has been the main factor of activity, and while the aggregate is not of great volume, yet many thousands of dollars are involved. The call for common brick for these enterprises has been steady, and this material is the big favorite for factory work. Housing operations have slackened a little due to the rather severe weather conditions, but the inquiries at the material dealers for supplies for construction of this character shows that a few weeks more will bring about noticeable increased activity in this line. Among the important late operations are a fifteen-story, brick and steel apartment house at Sixteenth and Locust Streets, to cost about \$1,000,000; an addition to the plant of the Model Mills Co., Ontario Street, to cost about \$150,000; and a new three-story and basement brick, steel and terra cotta factory for C. Schmidt & Sons, Inc., at Edwards and Sophia Streets.

Commons at \$23 in Firm Demand

Inquiries for forthcoming building operations are a feature of the material market at Philadelphia, and if the volume of price requests is to be taken as any indication, the spring season now about to open will show an exceptional degree of activity. The present call for supplies of all kinds is good, and particularly so considering the weather conditions. Severe handicaps have been experienced by dealers during the past few weeks in the matter of deliveries, and motor trucks have more than ever demonstrated their effectiveness in coping with snow-bound thoroughfares. Common brick is in firm demand with price around the \$23 and \$24 mark; the supply is sufficient for all immediate requirements and the different yards are making ready for a good spring production. Clay tile partition has indicated further advances during the past fortnight with price running to about \$140 for 3x12x12 in. material and \$160 for 4x12x12 in. The market for fire brick is good, and the price of No. 1 Standard is about \$68 delivered on the job. Face brick is none too plentiful, but good selections as available are being quoted around \$50 in carload lots.

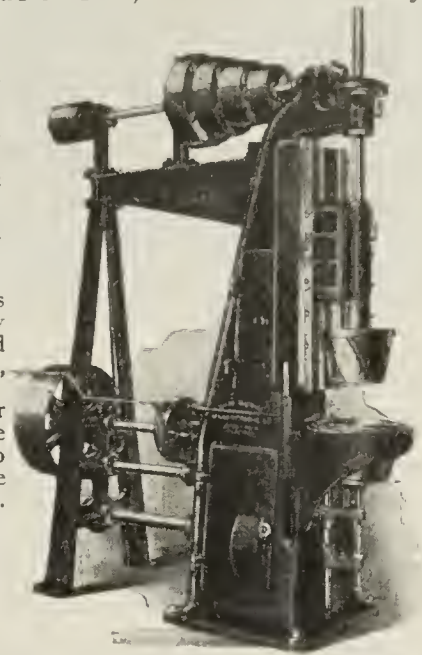
THERE is big money in the manufacture of Flower Pots, Stone Ware, Sleeves, Nozzles, Insulators, etc.—if you have the right kind of moulding machine.

One manufacturer who purchased a Baird Pottery Machine about eight years ago, and another machine two years later, reports that both were "a success from the start."

"The nicest part of this business is that all these pots are uniform and true in size, each one is exactly the same weight, which makes it much more convenient in stacking and burning the pots than it would be if these pots were made on the older style machines or made by hand."

The Baird Machine has speed, can be operated by any ordinary workman, and costs little in power, oil, and grease to operate.

Let us tell you what other manufacturers in your line of business are doing to add to their profit with one or more of these machines.



*Send Along a Sample
of Your Clay*

BAIRD MACHINE & MFG. CO.

265-69 Jefferson Avenue E., Detroit, Mich.



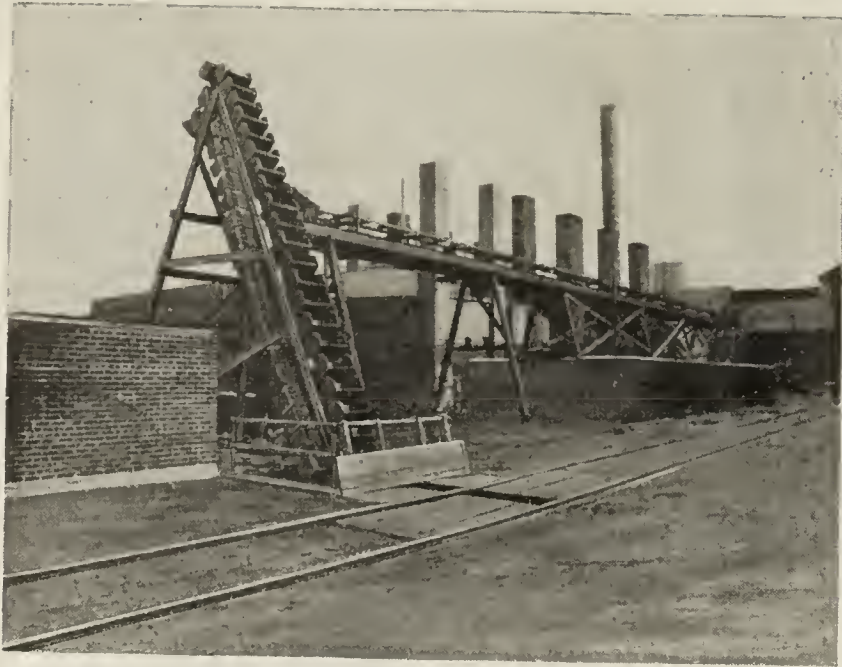
Light steel rails

We saved the day for the Clay and Coal Operators in War Times by furnishing BUCKEYE MINE RAILS, whenever and wherever needed, and while many other Steel Mills were running exclusively on other material, you could not have operated without us at that time.

Now, in Times of Peace, we ask that you do not forget us, as we can, and will render the same unexcelled service, and furnish the same high quality of material. "Buckeye means best", and BUCKEYE LIGHT STEEL RAILS are better still. All sections from 12 lb. to 40 lb. inclusive always in stock for quick shipment.

Let us have your inquiries, and we will take the chance of developing them into orders on our books.

THE BUCKEYE ROLLING MILL COMPANY
STEUBENVILLE, OHIO



Unloading for Three Cents a Ton

Brickmen are confronted today, not only with shortage of labor but the question of speeding production.

Here's what the Portland Drain Tile Co., Portland, Ind., has to say about our AUTOMATIC UNLOADER: "Your machine has given complete satisfaction and we find it one of the BEST LABOR SAVING devices we have around our plant."

Poston Paving Brick Co. writes: "It has given absolute satisfaction and is a wonderful TIME and LABOR SAVER."

Cleveland Builders Supply & Brick Co. writes: "We find your machine performs exactly as represented by you and we are more than satisfied with results."

Probably we can help you as we have helped others, write for catalogue anyway.

The Columbus Conveyor Co.
Columbus, Ohio

USE "Brick and Clay Record" Classified Ad Columns because you'll get quick action.

Published every other Tuesday, it's the **newspaper** as well as the journal of the clay-products industry.

If you need help—have a machine for sale or are looking for a second-hand machine—a classified ad in "Brick and Clay Record" will bring results.

Eight cents per word for first insertion; six cents per word for each additional insertion.

BRICK AND CLAY RECORD

New Hope Will Have New Brick Plant

The Clay Products Co. of America, an Ohio organization, has closed negotiations for the purchase of a large tract of property at New Hope, Pa., comprising about 260 acres of land on the Eastburn Reeder Estate. The site will be used for the erection of a large plant for the manufacture of vitrified brick and other burned clay products, and the initial works are estimated to cost in excess of \$100,000 including equipment. It is planned to have the plant ready for service during the coming summer. A housing development is also being considered in connection with the new works, to include the erection of homes at New Hope, as well as at Lambertville, just across the line in New Jersey. Arthur M. Eastburn, Doylestown, Pa., is acting as local representative for the company, which is headed by R. C. Burton, Zanesville, Ohio.

✱ ✱ ✱

The Harbison-Walker Refractories Co., Pittsburgh, has declared its regular quarterly dividend of 1½ per cent., payable March 2.

Show Attractive Brick Display in Offices

The Memphis Brick Supply Co., Goodwyn Institute, Memphis, Tenn. report business active in point of demand and hampered only in getting material. J. J. Bishop and a staff of assistants are busy with details of spring trade. They are installing some new machinery at their brick plant in South Memphis, where they manufacture common brick. Their office displays are handsomely arranged. The Bush line out of Nashville, Tenn., the Northwestern Terra Cotta line; the Verdigris Valley Brick & Tile Co. line out of Neodesha and several vitrified and fancy brick lines are shown. The firm is furnishing the brick on the Methodist Hospital, Pantages Theater and other large jobs under way. In the latter considerable terra cotta and tile goods also have a place.

Will Erect Additional Warehouse

The announcement was recently made that the Fischer Lime & Cement Co., dealers in sewer pipe, brick, terra cotta, plaster and all building products of that character in Memphis, Tenn., will erect an additional warehouse at 269 Walnut St. The structure will be two stories. The property is along the Southern R. R. and is now magnificently equipped. The firm began business in Memphis in 1906 and has grown with the city until it is one of the strongest here. They also have large branches at Greenville, Miss., Little Rock, and one or two other points in Arkansas. W. W. Fischer is president and W. M. Fry, vice-president and Miss Eugenie Hatfield, secretary.

Moss-DeVoy Brick Co. Formed at Memphis

A new brick company to be known as the Moss-DeVoy Brick Co., is being launched at Memphis, Tenn., where a 460 acre site has been provided, forty acres of which will be utilized at the present time. The company will be capitalized at \$50,000, with L. J. Moss, president and Clarence DeVoy, vice-president. The plant will turn out 60,000 brick a day, later manufacturing tile also.

Exchange Active in Memphis

The Builders' Exchange of Memphis, Tenn., elected officers February 10. George C. Kaucher, of Kaucher, Hodges and Co. was elected president; E. T. Thomas, retiring president,

was elected first vice-president; Clarence Devoy, of John A. Denie & Sons Co., second vice-president; and J. W. Williams, treasurer. In the next meeting of the board it is thought E. W. G. Meers will be elected secretary. This body is quite active, meets regularly, and has permanent quarters open every day in the Scimitar Building.

Closners to Operate Plant at Edinburg

In order to meet the rapidly growing demand for brick for building purposes in the lower Rio Grande Valley, where a score of thriving towns have sprung up during the last ten to fifteen years, a brick manufacturing plant with a daily capacity of 70,000 brick is being built at Edinburg, Tex. The product of this plant will be $2\frac{1}{2} \times 4\frac{1}{2} \times 8\frac{1}{2}$ inches in size. From fifty to sixty people will be employed in this industry. Three kilns are now nearing completion and a fourth will immediately be put up. Each of these kilns will have a capacity for 120,000 brick thereby affording a burning of 480,000 pieces at one time. Six large drying sheds are to be built. John Closner and his son, J. J. Closner, are proprietors of the new plant. It will be under the direct management of the latter.

Garrison Clay Products Co. Organized

The Garrison (Tex.) Clay Products Co. is being organized with a capital stock of \$150,000. It plans to build a plant for the manufacture of dry pressed brick and hollow tile. It will have a capacity of 40,000 brick a day. The company has purchased a large tract of land containing a big deposit of clay that will be used in the manufacture of the products.

To Burn Oil at Stamford Plant

It is stated by Charles Brewington, who plans to build a brick manufacturing plant at Stamford, Tex., that both common and paving brick will be made. The proposed plant will have a capacity of about 1,125,000 brick a month and oil will be used for fuel.

Waverly Soon to Get Tile Works

Announcement has been made of the establishment of a tile works at Waverly, Va., by Friend & Co., in connection with their brick works there. Machinery has been purchased and it is expected that the first finished tile will be turned out by June 1. General offices of the company will be in Petersburg, Thomas Whyte being in charge of the new concern.

Consider Brick Plant for Danville

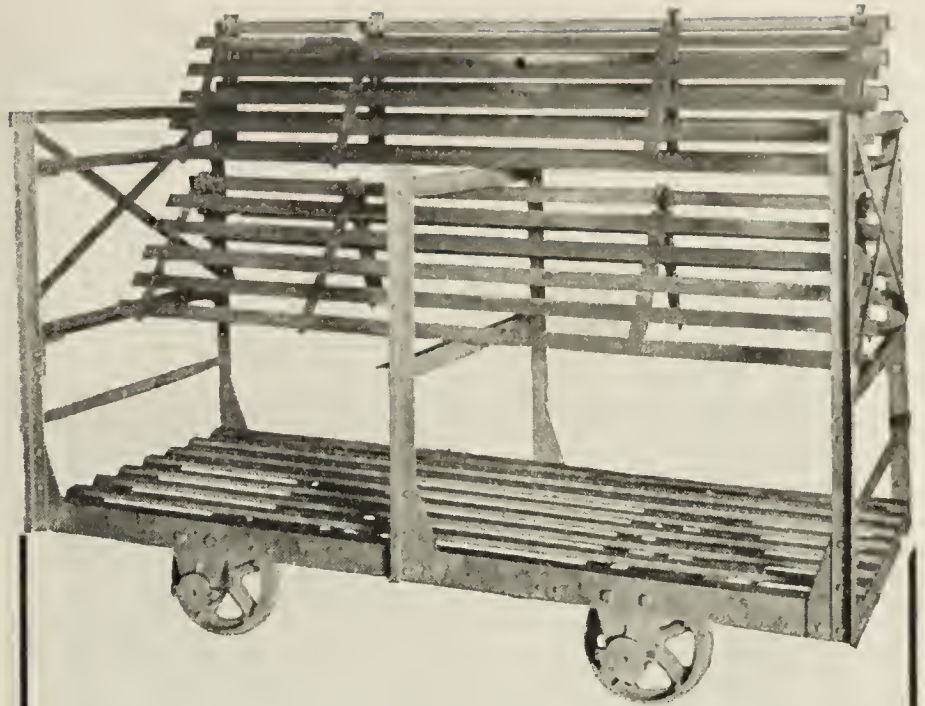
The Paragon Brick Co., Hopewell, Va., is considering plans for the establishment of a new plant at Danville, Va. The proposed works will have an initial capacity of about 40,000 brick a day.

Puyallup Plant to Reopen

The Puyallup (Wash.) plant of the Shope Brick & Tile Co. is about to be reopened. Building and installing of the machinery will begin early in March. It is the intention of the company to establish business in the old Jurion factory at Meeker Junction.

Kewaunee Concern Increases Capital

At a recent meeting of the stockholders of the Kewaunee (Wis.) Clay Products Co. it was voted to increase the capital stock of the company from \$15,000 to \$50,000. The com-



CAPACITY to stay on the job is of utmost importance in your dryer cars if you want increased production.

That's why we design all Conkey Dryer Cars for individual jobs. Every important requirement is considered and provided for. If you have a big job ahead for your Dryer Cars write us.

Ask for Descriptive Booklet

H. D. Conkey & Company

Mendota, Illinois

Equip Your Kilns with **SCHURS No. 1 DOWN-DRAFT KILN BURNERS**

For quick burns and better colors.

The Schurs is the ONLY Kiln Burner provided with a hood to protect the low fire from strong drafts when water smoking. Different types of Burners for the various classes of kilns.

Write for Catalog

SCHURS OIL BURNER CO.
Los Angeles, Calif., U. S. A.

Sole Mfrs.

Note
Adjustable
Tip Hood

"Be Sure
it's
Schurs"



This burner will produce a light fire close to the tip hood or to the rear of the furnace as desired, with just a half turn of the tip at a time.

"HURRICANE"

AUTOMATIC

Stove Rooms and Mangles
For Clay and Porcelain



FEED END OF "HURRICANE" AUTOMATIC STOVE ROOM

Stove Rooms Individually Designed.

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|----------------|---|----------------------------|
| That | — | Reduce Labor and Time. |
| Will | — | Improve Quality of Ware. |
| Mean | — | Uniformity of Drying. |
| Greater | — | Reduction of Floor Space. |
| Profits | — | Means Successful Business. |

Let our Engineers be of service to you in selecting the "Hurricane" Stove Room, Mangle, Drying or Conditioning Machine best suited to your requirements.

Automatic and Truck Systems

The Philadelphia Drying Machinery Co.

Stokley St., above Westmoreland

Philadelphia, Pa.

pany has erected a new plant on the site formerly occupied by the Star Brick Co., and expects to commence operations within a short time. The first of the four up-to-date kilns has been practically completed and a large drying shed and building to house the machinery and apparatus has also been constructed.

Hollow Building and Silo Tile Business Developing Rapidly at Sheridan

Carl F. Kneisel, secretary-treasurer of the Sheridan (Wyo.) Press Brick & Tile Co., writes regarding conditions in that territory: "We started off the year to supply an order for one million brick for public school building, and because of the winter setting in three months earlier than usual last fall, we were unable to make about five hundred thousand brick to carry us over the spring, consequently we were short in starting out. However, we expect to start making brick about March 1 which will be thirty days earlier than heretofore.

"We are now overhauling our entire machinery and shedding up our draft kilns so as to have everything in fine running order to start at the appointed time, providing weather permits. All this work is being done under the supervision of Fred Howard, who became associated with us on January 15 to act as superintendent. Mr. Howard was formerly connected with the Lewistown (Mont.) Brick & Tile Co. as foreman for the past seven years. In addition to his experience there, he was connected previously with clay industries in Utah, which experience has qualified him amply to fill the position he now holds.

"As soon as weather conditions permit this company will erect two more round down-draft kilns and make other improvements to help develop the hollow building and silo tile end of the business which is growing by leaps and bounds.

"The outlook for future business is very good. A large garage which requires five hundred thousand brick, a hotel, flour mill, and a five-story office and bank building in addition to a number of other business houses, not mentioning the vast number of residences which are calling for hollow tile, in which we are at the present time sold out, are to be erected. If we had been planning to make them last fall so as to have had them on hand at present, we could have sold thirty thousand hollow building tile to be used for foundations on frame buildings.

"While we have had little or no silo business heretofore, because of the draught last year, the farmers are beginning to look into the merits of silos. There will be not less than four built in this vicinity this fall."

Now Coming Out on Top

F. B. McFarran, general manager of the Interprovincial Brick Co. Ltd., Toronto, in an interview gave the following information to *Brick and Clay Record*. The company started operations in 1914, turning out the first brick just as the war commenced. Practically all construction work ceased and many brick manufacturers having large stocks to liquidate, reduced prices to such a level that it was almost impossible to sell at a profit, and the demand was extremely limited.

Fuel and labor were plentiful and selling conditions gradually improved as many manufacturers closed their plants. During 1916, 1917 and 1918 the demand continued to improve and as many of the plants were still closed down it became less difficult to dispose of the material produced. Fuel and labor became scarce and great difficulty was latterly experienced in producing sufficient fuel and labor to take care of the requirements. At times the car supply was inadequate and constantly increasing freight rates made the distribution

of manufactured goods increasingly difficult. Mr. McFarren stated that he thought the rate increases were greater in proportion on brick and other clay products than on almost any other commodity.

During 1919 it was found necessary to double the capacity of the plant at Cheltenham to cope with the demand and while wages have considerably increased, it is now easier to secure sufficient labor.

During the period to which reference has been made, wages have more than doubled and the price of fuel is also more than double, consequently making increased prices of brick necessary. The cost of buildings and kilns have also more than doubled during the period. In view of the greatly increased cost of new construction it will be a considerable time before production is back to the pre-war basis. At the present the demand for brick is greater than the supply and the Interprovincial Brick Co. is constantly adding to its capacity.

Canadian Delegation at Buffalo Meeting

The sixteenth annual convention of the Sand-Lime Brick Association held in Buffalo, February 3 and 4, was attended by the following Canadians: H. W. Terry, Harbor Brick Co., Toronto; W. D. MacFarlane, Winnipeg Brick Co., Winnipeg, Man.; L. V. Stevens and R. A. Lillibridge, West Lake Brick & Products Co., West Lake, Ont.; Robert Marshall, Canadian Inspection & Testing Laboratories, Toronto. Mr. Marshall gave a paper on his experiences testing lime brick. He brought out the point that the mortar was the weakest part of brick masonry. Referring to the manufacture, he stated that the presence of clay decreased the crushing strength of the brick. He urged the manufacturers to carry on a campaign of education in the proper use of sand-lime brick and proper mortar.

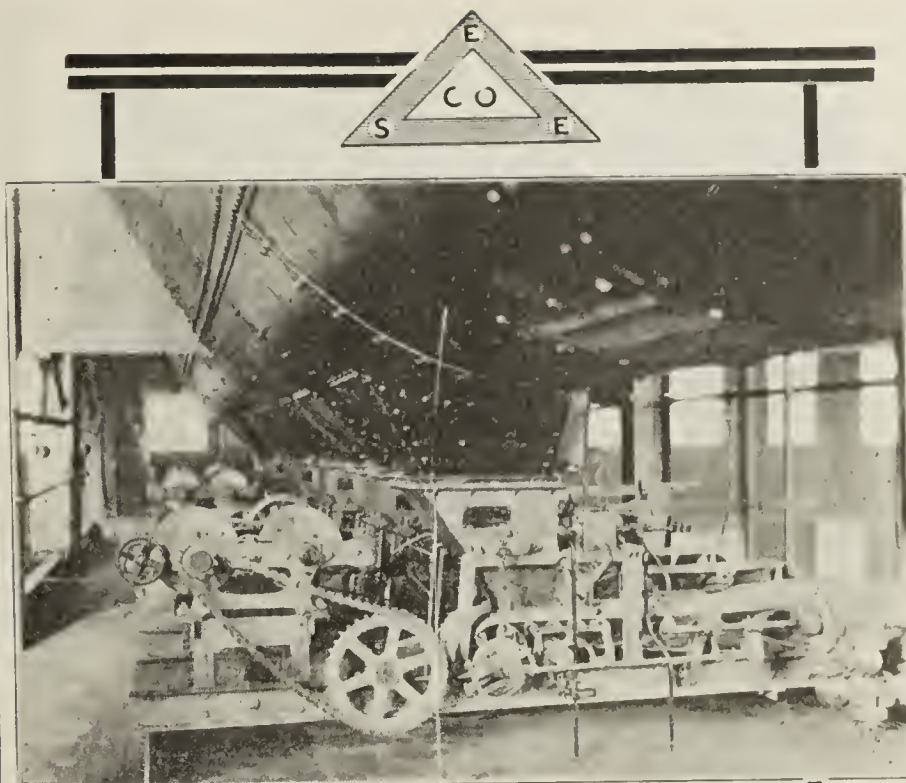
Six Canadians in Attendance at Columbus

The following Canadians attended the N. B. M. A. convention at Columbus, February 18 to 20: Ryland H. New, Hamilton & Toronto Sewer Pipe Co. Ltd., Hamilton, Ont.; Frank R. McCannell, Milton Pressed Brick Co. Ltd., and Mrs. McCannell, Milton, Ont.; K. Stillwaugh, Interprovincial Brick Co., Cheltenham, Ont.; H. D. Callahan, Dominion Fire Brick Clay Products Co. Ltd., Moose Jaw, Sask., and Gordon C. Keith, secretary of the Canadian National Clay Products Association, Toronto.

Just Across the Border

Reports of brick and other clay products plants show that many are not now operating on account of cold weather and that many are suffering from shortage of labor. At Westville, N. S., and St. John, N. B., Quebec, P. Q., Sherbrooke, P. Q., brick plants are closed for the season. At Hamilton and Toronto there is a big demand for clay products and there is considerable activity among the brick, tile, pottery and sewer pipe industries. A similar condition exists at Belleville, Ont. At Brantford the brick plants are running continuously. The brick yards at Stratford are busy but at Kitchener and Windsor they are less active. Medicine Hat, Alberta brick and tile plants have been enjoying a big demand. At Victoria, B. C. the brick industries are quieter.

The Imperial Brick Co. of Canada, Ltd., is being formed by United States financial interests. It is proposed to erect plants at Toronto, Montreal and Winnipeg. It is stated that sites have already been secured at Toronto and Winnipeg and



THE BEST WEIGH

for accuracy and dependability is to do your adding, weighing and recording with the

Schaffer Poidometer

In the above picture, 9 of these machines in batteries of three each are proportioning materials as well as adding the correct amount of water, the third machine in each battery being equipped with liquid measuring attachment. They are weighing with an accuracy of 99.75 per cent, and at the rate of $1\frac{1}{2}$ to 21,000 pounds a minute, according to size and adjustment.

It eliminates cracked ware in the dryer. Costs very little to operate. Requires practically no replacement or repairs.

The Schaffer Poidometer does the work of your pug mill man, with maximum efficiency, improving the temper of the column, weighing and measuring without loss and waste.

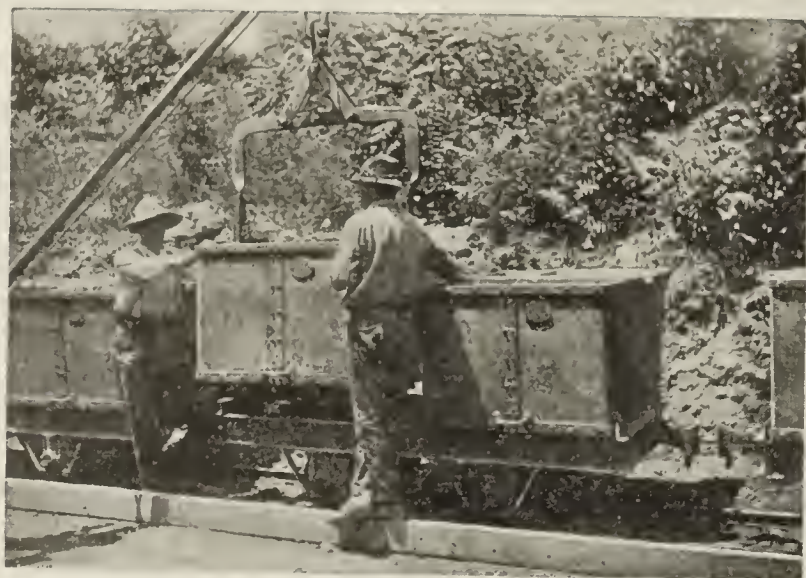
This saving in wages, time and material and the elimination of cracked ware will make the Poidometer pay for itself in a very short time.

Write for our Bulletin and data

The Schaffer Engineering & Equipment Co.

Peoples Bank Building,

Pittsburgh, Pa.



EASTON CARS

"On the Job"

Cars for concrete aggregate in all its stages, from the quarried rock to the final mixture—hopper and dump cars for the broken stone, platform cars for the bagged cement, scoop cars to carry the wet grout from mixer to form.

These are but some of the cars we make—along with the track, switches, turntables and all the rest of the equipment for any industrial railway.

Whatever you need a car for, we make the car that will meet your requirements—either in stock design or to fit your specifications. Our engineers have the skilled experience of twenty-five years of car building to place at your disposal—and the facilities to build what you want.



*Say What You Want to Carry
and We'll Help You Carry it
Economically.*

EASTON CAR & CONST'N CO.

45 Dey Street

New York

Works: Easton, Pa.

Boston Chicago Detroit Philadelphia Pittsburg

2047-E

that the company has control of a new process of brick manufacture by which the cost of making is considerably reduced.

Toronto clay products manufacturers have been endeavoring to have the smoke by-law amended so that it will not apply to brickyards. So far the Board of Control refuses to make any exception and a number of the manufacturers are either putting in new kilns or are improving their old ones.

William Burgess, superintendent of the Don Valley Brick Works, Todmorden, Ont., who was to read a paper at the N. B. M. A. convention, was taken down with the flu and was unable to attend. At the same time Mrs. Burgess was ill with pleurisy.

Joseph Russell, Toronto, Ont., has been elected to the Agricultural Section of the Canadian National Exhibition. It is well known that in addition to operating a brick plant in the city, "Joc" has a farm on Kingston Road where he raises Rhode Island Red chickens and Airedale dogs.

Manitoba Clays and Building Supplies Ltd., Winnipeg, have in view the operation of two brick plants, the negotiations for which are now pending. Every endeavor is being made to secure them and have them running in time for the heavy demand for brick that will be made this spring.

The Hepworth Silica Pressed Brick Co., Hepworth, Ont., has commenced to refit its plant in preparation for the coming building season, when a large demand for brick is anticipated.

Jack Miner, tile manufacturer, Kingsville, Ont., gave his well-known lecture on birds with moving pictures at the annual banquet of the Dominion Commission of Conservation at the Windsor Hotel, Montreal, on February 19.

Ryland H. New spent a fortnight visiting various clay-working centers in Ohio and more especially some of the newer plants there.

Manitoba Clays & Building Supplies, 806 Electric Railway Chambers, Winnipeg, plan to construct brick kilns and a dryer at a cost of \$60,000. The general manager is J. L. Thomas.

In February, Toronto, Ont., issued 241 building permits valued at \$1,463,775. Of this number 55 were for brick houses.

Canadian Fireclay Products Ltd., head office at Toronto, capital \$40,000, has been incorporated to deal in articles made from fire clay.

The Hamilton & Toronto Sewer Pipe Co., Hamilton, Ont., has received an order from the city of Brantford for its yearly supply of sewer pipe.

The Sun Brick Co., Toronto, is considering the construction of additional kilns as soon as weather permits.

New Officers of W. O. C. W. A.

At a meeting of the Western Ontario Clay Workers' Association Feb. 24, 25 and 26, the following officers were elected:

President, W. McCredie, Lyons; first vice-president, Alfred Wehlann, Cairo; second vice-president, H. H. Hallatt, Tilbury; third vice-president, R. T. McDonald, Brigden; secretary-treasurer, Gilbert E. Armstrong, Fletcher.

A fuel committee was elected as follows: C. S. Parker, chairman; R. T. McDonald, W. McCredie, A. Wehlann, H. H. Hallatt, and G. E. Armstrong. Auditors—H. H. Hallatt and Alfred Wehlann. Permanent gas committee—C. S. Parker, chairman; W. McCredie, R. T. McDonald, A. Wehlann and G. E. Armstrong.

(Continued from Page 513)

was that read by W. N. Cary on "Common Brick Homes, Old and New."

In this paper, Mr. Cary describes an expedition which he, George A. Parry and Ralph P. Stoddard took in and around Boston to inspect old brick buildings. Mr. Cary can tell an interesting story, like few are able. He told of the almost indescribable charm of brick buildings now several hundred years old and still in excellent condition. His tale recalled to the mind of the listener the scenes of the early part of the seventeenth century when he showed a picture on the screen of the old Craddock house, build only 12 years after the landing of the Pilgrims, in 1620. A private family is now living comfortably in this house of brick now close to 300 years old. The minute men of '76 took on life as Mr. Cary painted a word picture and showed an actual photograph of a brick building at Harvard University which was used at that time as a barracks. Everyone remembered the stirring deed of Paul Revere as a picture of Old North Church was flashed on the screen, several hundred years old and built with brick.

Pictures of these historic brick buildings of ancient erection together with a brief historical sketch will no doubt be used liberally in connection with the national advertising campaign about to be launched by the Common Brick Manufacturers Association. However, why not let our employes on the various common brick plants of the country see these pictures and hear a brief explanation of their history and their connection with the ideals and traditions of America. Perhaps such a diversion occasionally in the form of a shop meeting at noon with the aid of a few lantern slides might spur them on to a greater interest in the product of which they have a part in the manufacture.

Suggestions less practical and plans less interesting have, no doubt, been made and tried. There is a great popular demand for more Americanization effort. Why not tie up our education of foreigners in the ideals and traditions of America with our product?



At Home Anyplace

In "Podunk" or Paducah, Seattle or Siam, or wherever there's a pumping job to be done in a hurry—slapped to a beam, hung to a wall, rigged wherever you please, a PULSOMETER is "at home" and ready to work—it is built not to need a foundation and doesn't.

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Liberty Steel Products Co., McCormick Building	CHICAGO	F. H. Hopkins Company.....	MONTREAL
Beckwith Machinery Co., 1227 West 9th St.....	CLEVELAND	Kern-Hunter, Inc., 208 Wells St.....	MILWAUKEE
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2024-M

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STEAM PUMP

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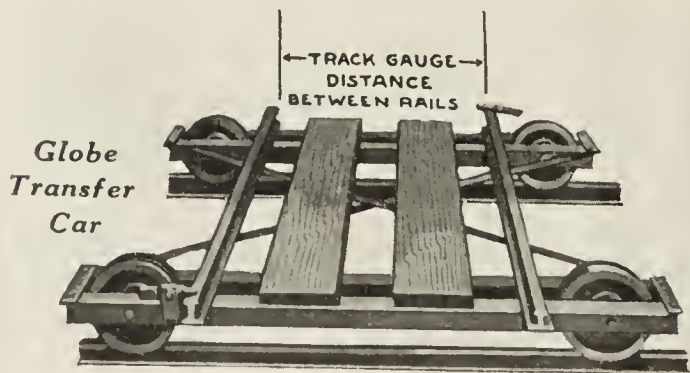
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A large majority of Central Western Brick Plants are equipped with Globe Dryer Cars—Why? Because we have developed a car that is built to wear—to last for years. The Globe Car has roller bearings making it possible to stop and start without jar. The up-rights are held rigid with heavy gusset plates.

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Globe Machinery and Supply Co.

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MACHINERY and EQUIPMENT

Descriptions of Machinery and Accessories
and Detailed Announcements that Our Ad-
vertisers Believe Will Interest Our Readers

"England and America Combination"

Under this heading "The Bucyrus Evening Telegraph," date of February 21, came out with an illustrated story of the combination of The American Clay Machinery Company, Bucyrus, Ohio, and Hadfield's Limited, Sheffield, England.

To carry out the enlarged program which has been planned, it has been found advisable to change the name of the company to the Hadfield-Penfield Steel Company. The entire details of the new organization have not yet been worked out, and consequently are not available for publication. However, within a few weeks the old and respected name "American Clay Machinery Company" will disappear from the business world and in its place there will rise the Hadfield-Penfield Steel Company "with all the prestige and promise that the joint accomplishments of the past and the renewed energy of the future can give."

Quoting from the "Telegraph": "While there is no steel company in Europe so well known or with a better reputation than Hadfield's Limited, it is equally true that the American Clay Machinery Company is the largest of its kind in the world, and it enjoys an enviable reputation for its aggressive policy of development and manufacture."

"The work of the American company in connection with the late war placed it in the forefront of the manufacturers of this country. Some of its work was such that only a few concerns in the United States could compete, and none of them surpassed the excellence of the American company's products."

The new company means not only new lines and activities but also a material extension and betterment of old lines heretofore manufactured—including the full line of clay-working machinery now produced by The American Clay Machinery Company.

Mr. R. C. Penfield, president, and Col. C. M. Wesson, vice-president, who have just recently returned from England, represented The American Clay Machinery Company in the negotiations for this alliance, which is bound to have far-reaching effects. Unlimited opportunities are open for growth, and we are sure the clay products industry joins *Brick and Clay Record* in wishing the new organization, The Hadfield-Penfield Steel Company, success.

✻ ✻ ✻

Westinghouse Opportunities for Technical Graduates

Westinghouse opportunities for technical graduates are very thoroughly explained in an illustrated pamphlet bearing that title, recently issued by the Westinghouse Electric & Manufacturing Co.

This booklet describes, in considerable detail, the plan which has been developed by this company for the training of the graduates of technical schools at all of its various works. In the booklet is included a list of prominent Westinghouse men who originally entered the company as graduate students, as well as a complete list of schools from which over 5,000 students have entered the employ of the company.

Copies of the booklet will be sent to anyone interested on application to the educational department of the company at East Pittsburgh.

✻ ✻ ✻

To Stop Belt Slipping

If the average clay plant manager were prepared to figure in actual money the real loss occasioned every year from belt slipping, the total amount would simply be astounding. There

are methods of figuring this, and the Cling-Surface Co., 1029 Niagara Street, Buffalo, N. Y., have been able to enlighten a great many clay plant managers in regard to this. The information will cheerfully be sent by this company to any reader of *Brick and Clay Record*.

Cling-Surface is one of the oldest and best known belt products on the market that is used to stop belt slipping and there are scores of plant managers who would just as soon think of being without oil for their engines as to be without Cling-Surface for their belts.

Cling-Surface is an unusual product of its kind and while it primarily stops slipping it also permits of easy or slack running. This gives the belt a chance to embrace the pulleys through maximum arcs, and thus belts that are treated with Cling-Surface are doubly insured against wasteful slipping.

Another advantage of Cling-Surface is that it makes the belt impervious to dampness and resistive to heat, chemical fumes, etc. It also reduces the internal friction and adds greatly to belt life. The Cling-Surface Co. backs up its faith in Cling-Surface by offering to any clay products concern a fifty-pound can for a thirty-day trial, to be paid for only if it proves all the company claims for it.

* * *

Non-Destructive Method of Belt Joining Helps Big Cement Mill Solve Unusual Problem

An unusual problem in the handling of hot cement clinkers with a temperature of 200 deg. and over, was recently solved at the plant of the Standard Portland Cement Company, Leeds, Alabama, in an interesting and cost-reducing manner.

The method decided upon for moving the clinker was a rubber conveyor belt, but the clinker could not be cooled sufficiently in the process previous to conveying to prevent scorching of the belt and its rapid destruction. The answer to their problem was found by running the belt at an incline of 12 deg., so that the lower pulley dipped into a trough of water, thus carrying a film of cold water upon the belt, onto which the hot clinker from the loading hopper was deposited.

At this point a new problem was encountered; namely, how to join the belt so that the belt's full strength would be retained, and in a way which would withstand the extremes of temperature, the wear on the pulleys and the abrasion of the clinker.



The Crescent Fastener Brings the Belt Ends Tight Together

For this purpose Crescent Belt Fasteners were adopted, because they brought the belt ends tightly together in a snug joint, which made the belt practically endless on the pulley side, so there was no opportunity for clinker ash to get into the joint and abrade the belt ends, and also because in this method of joining, no metal came in contact with the pulleys to cause wear, and a permanent joint was thus assured. Moreover, the exceptional strength of the heads of the Crescent Rivets and the formation of Crescent Plates prevented destruction of belt joint through abrasion by the clinker.

The illustration is of the outside and inside of Crescent joint on a 4-inch belt. The inside shows how no metal comes in contact with pulley and how ends are brought tight together.

In six months of operation, this conveyor has carried 61,000 tons of clinker, and the Standard Portland Cement Company credits the saving of \$300.00 in belt cost alone to this conveyor.

The belt used was Goodyear Hy-temp, which is made particularly to withstand temperatures up to 200 deg., and is



"Proctor" Dryers Make For Better Porcelain Electric Insulators

The success the Proctor Dryer had already obtained in drying all kinds of brick, hollow tile and conduit, was also obtained in drying porcelain electric insulators, in the plant of one of the largest manufacturers of electric machinery. The result was of the utmost importance on account of the very high value of the material, and because of the perilous danger of spoiling the product during drying by the old method. Not only did the Proctor Dryer reduce the length of time it formerly took to dry this ware, but it also occupied less floor space, eliminated the danger of spoiling the ware, and made it possible to secure much more uniform results than had been obtained by the old methods.

One heavy piece of porcelain which formerly required 30 days in the dry-room is now being dried in 30 hours in the Proctor Dryer. This means a saving of 23 hours out of every 24 in the drying of the product.

The Proctor Dryer takes up only 1/25 of the amount of floor space that was required by the old dry-room. This saving permits of an increase in production because of the increased floor space available.

Any manufacturer of porcelain ware who is sufficiently interested to investigate the principles on which the Proctor Dryer is designed and constructed, will be convinced that an advantageous saving in time and floor space can be brought about by a Proctor Dryer installed in his plant.

Philadelphia Textile Machinery Co.

Drying Machinery Specialists

PHILADELPHIA, PA.

"Proctor"
DRYERS



The Gateway to Better Things BOOKS

The Master Workman has a Master Mind—he knows perfectly his own merit, and in order to increase his knowledge, he studies the methods of other men—in the only way that he can—in books. If you would be master of your work you must read and know what others know.

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Bricklaying System	3.00
Brick Work (Walker).....	.85
Brickwork and Masonry.....	3.00
Building Construction and Superintendence, Part I, Masons' Work.....	6.00
Bungalows, Camps and Mountain Houses.....	2.00
Ceramic Industries—A Treatise On (E. Bourry).....	7.25
Clay and Pottery Industries.....	6.00
Clay Plant Construction and Operation.....	4.00
Clays: Their Occurrence, Properties and Uses.....	5.00
Clayworker's Handbook.....	2.50
Clay-Working Problems.....	1.50
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Practical Farm Drainage.....	1.60
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Silos—Construction and Service.....	.60
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adapted for work on conveying jobs in mines, coking plants and cement factories where heat resistance and ability to withstand hard wear are prime requisites.

Not alone on heavy drives, such as tube mill drives, Griffin mills, crushers and heavy conveyors, are Crescent Belt Fasteners successfully used, but also on lighter drives of all kinds where dependability is an economic factor, as they assure continuous production.

A new hand book illustrating Crescent Belt Fasteners in use on many different sizes of belting and under different conditions, and giving full data regarding their use, will be gladly sent to any reader of *Brick and Clay Record* upon request to the Brick Mill Service Department, Crescent Belt Fastener Company, 381 Fourth Avenue, New York.

✕ ✕ ✕

The Easton Car & Construction Co., in order to give their customers in the Detroit district the service that their business demands, have opened a branch office in Room 400 Penobscot Building, Detroit, Mich., in charge of H. H. Siff, the district sales engineer, who is experienced in industrial railway matters and whose services are at the command of those interested. Through this new branch office industrial railway users may secure quick, accurate and dependable engineering services and the solution of difficult problems in special equipment. The Easton company announces that their branch office will carry a stock of spare parts as soon as the demand for such service makes it advisable.

✕ ✕ ✕

Chas. M. Ross is now vice-president of The Wellington Machine Company, Wellington, Ohio, and he attended the convention at Columbus for the purpose of meeting the different customers of the company, as well as other brick manufacturers. Mr. Ross reports that he had a very enjoyable time and that it is his intention to visit the different conventions from year to year.

The Wellington Machine Co. is still doing business with practically the same organization as for the past 35 years, with the exception of Mr. Ross who has recently taken Mr. H. S. Bennett's place. The other members are continuing in their previous capacities—R. C. Bennett, and D. J. Strickland who not only has charge of the engineering in the installation of complete plants, machinery and dryers, but is also the capable sales manager, and has definitely and permanently allied himself with the company.

The Wellington Company feel that their organization was never stronger and prospects for business never better.



CHAS. M. ROSS

Vice President of The Wellington Machine
Co., Wellington, Ohio

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Standards of Practice for Business Publications.

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To

decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

Build Homes, Not Factories

WE REALIZE that in urging the building of homes, and not factories, we are taking our lives in our hands so far as some readers are concerned. Nevertheless, we desire to say that after mature consideration in view of existing conditions, we believe that such a course should be urged.

The F. W. Dodge Co.'s review of building activity during the month of February 1920, reveals the fact that out of the total amount of contracts awarded during that month from the territory east of the Missouri and north of the Ohio rivers, **thirty-two per cent. was for industrial building**, twenty per cent. for business buildings, a like percentage for public works and utilities, **and only seventeen per cent. for residential buildings.**

In other years it made little difference to the clay products manufacturer what the nature or purpose of the building was, so long as he sold his materials; price delivery requirements and credit conditions being equal, a bunch of residences looked as good as a factory building, or vice versa.

Today the situation is different. Clay products manufacturers are not so much interested in selling their materials as they are in producing them. While we believe there is no serious shortage of clay products, it is a fact that there is a place for every brick or tile or pipe which will be made during the next six months.

The clay products manufacturer, therefore, is in a position to urge and advise the nature of the building into which his products go.

No argument nor demonstration is necessary to prove that homes are needed; on the other hand we believe that it is a serious question as to the advisability of some factory additions, extensions, to say nothing of new buildings. Many concerns could get along with their present quarters, if they really had to.

Over production is the greatest menace which the country is facing today. We are at

the critical stage of our industrial development. We have hardly begun to feel the pinch of cheap European competition which is sure to come. We will be in a better shape to meet this competition if stocks do not pile up. This subject is such as to afford a much more extended discussion, but space does not permit at this writing. These remarks are simply recorded to strengthen the assertion that homes are more necessary than factories. The material that is going into that class of structures would go far to solve the nation's distressing housing problem.

* * *

The Outlook for Transportation Relief

CAR SHORTAGE is still a—if not the question of the hour. The railroads, it is true, are now being operated by their owners, but what difference does this make to the clay products manufacturer? Has he been the recipient of any relief whatsoever? What is the outlook for improvement in transportation conditions?

Just what we may expect, now that the roads are back, is the subject of a brief article on another page of this issue. You will agree that if prospects as outlined in this article are accurately stated, it affords little comfort. The only thought that carries with it even the slightest measure of consolation is that we might reasonably look for an improvement in the attitude of the railroad personnel.

Clay products manufacturers have complained bitterly with regard to this attitude.

"No one at present," writes a maker of clay wares while the roads were still under government control, "seems to be responsible or cares whether cars are furnished or not. Their pay goes on just the same whether the roads handle one car or a hundred."

"Speed up the railroads," is the remedy urged by another clay products manufacturer. "They are in low gear and a few in reverse."

"Slow movement of freight and indifference

of employes and railroad officials has a great deal to do with the situation at this time," is the opinion of still another clay manufacturer.

"Our greatest trouble," complains a brick-maker, "is due to cars remaining in distribution yards loaded. Cars stay there from eight to eighteen days before being placed on siding for unloading."

Certainly it would seem that there ought to be an improvement in discipline and general morale in the ranks of the railroad workers. When this comes (and we believe it will) clay products manufacturers may experience some measure of relief.

In the meantime the actual car shortage is getting worse, and conditions are growing more distressing. According to the estimates of one of the largest shippers in the country, there are at present about two million freight cars and one hundred thousand locomotives in operation. Approximately eight hundred thousand cars should be built in the next three years, or an average of 267,000 cars per annum in order to make up the car shortage. The greatest output in any one year in the United States was 250,000 cars.

The hopelessness of immediate relief by building more cars is therefore self evident.

Attention is called to a letter from Harry A. Brocas, of the Buffalo (N. Y.) Builders' Supply Co., which is reproduced on another page of this issue. Mr. Brocas, as well as others, is in favor of a sixty to ninety day embargo on luxuries such as automobiles, high price furniture, and so forth, giving the right-of-way to building materials, food, and clothing.

Surely something radical must be done if the building materials which have accumulated at manufacturing plants are to be moved to dealers' ware houses, and to the building sites of America before the spring rush is upon us.

The housing situation in America is desperate. Nothing but heroic measures will prevent great financial loss, inconvenience, discontent, disease and disaster from growing out of insufficient housing accommodations.

* * *

Why Not a National Conference on Brick House Construction?

WHILE common brick manufacturers were meeting in annual session at

Columbus, Ohio, during the third week in February, another convention was in session in Chicago. This was the National Conference on Concrete House Construction which opened Tuesday afternoon, February 17, and closed Thursday evening. It is generally agreed among those interested that the convention was one of the most successful and significant gatherings in the history of the construction industry.

"It was successful in the points of attendance," reads a report of the meeting, "approximately five hundred delegates registering, some of them from Canada, interest, and the exceptional contributions to constructive thought on the national housing problem. It was significant in that it was vastly more than a convention devoted to the interests of the concrete industry. From the opening to the closing session, the proceedings were pitched on the plane of general welfare of the nation and the construction industry. **It was a convention in which one heard less about profits and more about service, improved quality and that sort of self-interest which realizes that the sure way to benefit the individual industry is to broaden the service and improve the products of all industry.**"

Those interested in the manufacture and sale of cement are to be congratulated upon the success of this gathering. It was a commendable piece of management, and it will no doubt redound to the benefit of the industry. Clay products manufacturers, however, are not particularly alarmed at the success of this gathering. A concrete house, because of mechanical difficulties and deficiencies is not to be particularly feared as a competitor to brick construction.

The recent conference on concrete house construction, however, should offer a suggestion to the manufacturers of clay products entering into building construction. The suggestion is: Why not a similar conference on brick house construction? Such a conference ought not to attract merely five hundred, but FIVE THOUSAND. The idea is well worth considering. Let us hope that the next twelve months will see a convention of this character.

BRICK BUILDINGS —OLD *and* NEW

*A Delightful Narrative of a Trip Thru Parts of New England Where-
in Brick is Closely Interwoven with the History of That Section*

By W. N. Cary

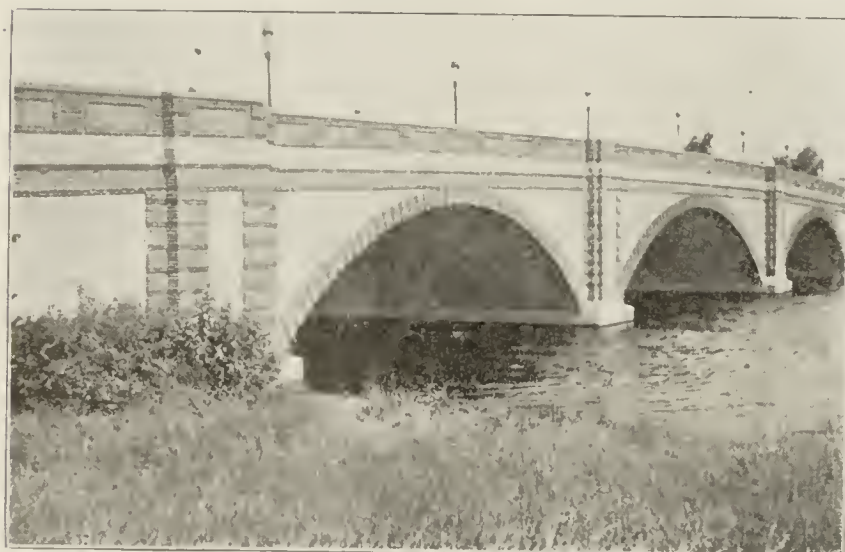
*Read Before the Annual Meeting of the Common Brick Manufacturers' Association
of America, at Columbus, Ohio, February 17, 1920*

DURING THE LATTER PART of last summer it was my pleasure, in company with our secretary-manager, Ralph P. Stoddard, to visit Boston and go with him over a part of the ground made hallow by the events of the past.

With our genial friend and brother director, George A. Parry of Boston, we were soon comfortably seated in a modern gasoline conveyance which had Henry's name prominently displayed on the hub of each wheel. After disposing ourselves in the car so the avoirdupois of George and myself was properly distributed to keep the craft on an even keel, we started. Of course George gave the usual explanation as to why he preferred a small car to a heavy one—that it was so much lighter and handier to get around with—and of course we agreed. But in the back of my head I felt quite sure that the reason why most brick manufacturers prefer light cars to heavy ones, and why some, like myself, so often enjoy walking, is traceable to the condition of the brick business; and it was our aim to try to change those conditions to such an extent that the question of a little heavier car might be considered, and walking would not have its attractiveness.

SIDE TRACK SENTIMENT TO STUDY OLD BUILDINGS

We left the Builders' Exchange on Devonshire Street and



The Larz Anderson Bridge That Is Located Near the College Campus and Leads Across the River to the Harvard Stadium.

drove over to the Boston Common, and thence up Capital Hill, taking just a glance at the State House, built of brick, and its golden dome. As a part of this building had been built only a little over a hundred years, it was not considered old enough to take any of our time and attention.

We were out to see *old* brick buildings, and anything built since the days of the Revolutionary war was, in our opinion, altogether too "kiddish."

I am not sure of the feelings of the others in our party



One of the Halls of the New Freshman Dormitories at Harvard University.

that morning, but I do know that for myself I had only this one purpose in mind—that my trip was to be a cold-blooded, out-and-out commercial undertaking. There was no thought of any sentiment, but just the idea of trying to find out all we could about old brick buildings, with the intention of capitalizing that information for the use of the brick industry. I would not have driven around a block to see a wooden building if it was a century old and noted for some great event, unless I thought we could compare its condition with the condition of some brick building of the same or a greater age, and thus add proof, if proof be necessary, to the durability of brick. We were out just to learn all we could about old brick buildings and nothing else.

FOLLOWED TRAIL OF REVOLUTIONARY WAR HEROES

After leaving Capital Hill we drove down Commonwealth Avenue and over the Charles River, and even with our ideas so well formed that we felt sure we knew just what we were out to see, we could not remain unmoved by the wonderful view, from that bridge, of the great buildings, practically every one built of brick, that loomed up along the shores of the famous old river.

Leaving the river we passed on thru Cambridge, that old city of so much historical and educational note, over toward Harvard College, driving thru the streets and past the many buildings that have stood there since the days when

soldiers of the Revolutionary war marched along the same route we were following that day until we came to the beautiful bridge, known as the Larz Anderson Bridge. It is



Building Constructed of Clinker Brick, Wherein the "Lampoon", the College Newspaper, Is Printed.

located near the college grounds and leads across the river to the Harvard stadium. Its arches and copings are built, or at least faced, with water-struck brick, known to the trade as "Harvards," which, in reality, are the common brick of that section of the country, being molded by water instead of by the sand process common in most other localities. And if there is anywhere to be found a more beautiful bridge—made beautiful by the use of common brick—it has not been my fortune to see or hear of it.

VISIT HARVARD UNIVERSITY CAMPUS

At each end of this bridge stand pillars, or columns, of the same decorative design as the bridge, and here again



A Gate Post Showing Detail of Swollen "Lammies".

common brick not only beautify but are just in keeping with the sentiments so expressively worded on the tablets which they bear. One is impressed by reading:

"May this bridge, built in memory of a scholar and soldier, connecting the college yard and playing fields of Harvard, be an ever present reminder to students passing over it, of loyalty to Country and Alma Mater, and a lasting suggestion that they should devote their

manhood, developed by study and play on the banks of this river, to the Nation and its needs."

We crossed back over Anderson bridge and came, after a short distance, to the new freshman dormitories, consisting of the James, George, and Perris Smith Halls, with Gore Hall and Standish Hall near by. There are some things in life we think we understand and realize without ever having seen, until the time comes when we actually do see them.

and then we are amazed at our lack of understanding. In nature we find Niagara Falls, the great prairies and mountains of the West, the Grand Canyon of Arizona, and the Big Trees of California. They are only a few of nature's wonders that you can read of and have described to you until you think you know how they look and what they are but when you actually stand face to face with them then you realize how inadequate descriptions are.

FEEL INSIGNIFICANT IN SURROUNDINGS

The dome of our nation's Capitol Building, the Washington Monument, the Brooklyn Bridge, and the Woolworth Building are some of the works of man that tax our imagination and make us halt in amazement at the wonderful things in this world of ours. Something of that same feeling held me as we came to these dormitories—so much larger, so much more imposing than I had ever dreamed of. I felt like a Lilliputian as I walked thru the great arch leading to the court, and out into that court, and stood and looked at those buildings. I was surrounded by brick buildings—beautiful brick buildings—stories high, and of such proportions that measurements lost their meaning. I don't know what flabbergasted means, but I guess that was what ailed me. I can't describe their greatness, neither can I describe my feeling of littleness. I think I must have had a touch of the same impression that Robert Service had when he wrote in his "Tales of the Yukon,"

"I have stood in some mighty canyon

That is plumb full of hush to the rim."

I suppose the hush was occasioned by the fact that it was vacation time and the students were all away.

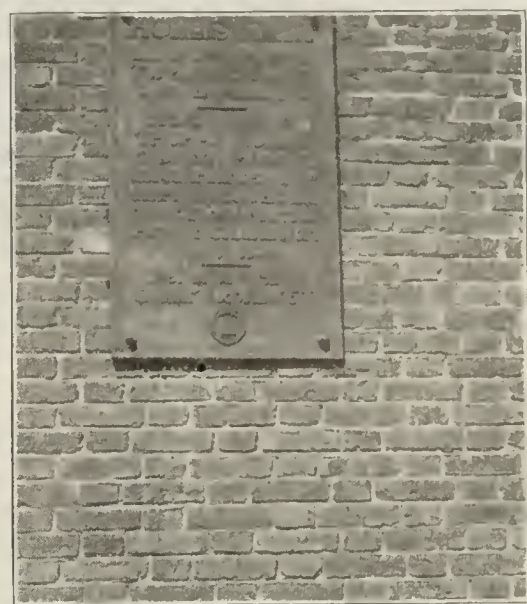
BEAUTY OF BRICK IMPRESSED UPON STUDENTS

Perhaps should you stand in that same spot today and



View of Part of Boston Proper with Faneuil Hall in Fore-ground.

look around at the myriad windows, thru which you might see the young men of that institution either busy with their studies or, for a moment of relaxation, gazing upon the beau-



Tablet Placed on Wall Near End of Building Known as "Hollis Hall".

ty and breathing in the atmosphere of that place, you might not find quite so much hush. But back of it all you can't help feeling this—that these students, unknowingly perhaps, must



A View of One of the Very Interesting Old Structures, Connecticut Hall, Whose Brick Are Still in Splendid Condition, as May Be Seen by Referring to View of Tablet.

gradually but surely be converted to belief in the beauty and durability of brick as a building material. And here let me prophesy that whoever of these same boys reaches a position in the future years where, in some city far away from Harvard, he may give a dormitory, library, or hall of science to some institution of learning, he will be so influenced by the remembrance of the view from his windows of these dormitories, with their stability and beauty, that he will surely build of brick.

Near these dormitories we were shown the building where the students print their college paper known as the "Lampoon."

"Built of brick?" you may ask. I answer, "Yes, to be sure." And let me tell you something: these boys have seen the light ahead of some of us that are many years older and might be expected to know a little more. They have taken a lot of brick that most of us would have thrown out as practically worthless on account of their being misshapen, swollen "lammies" and have built a beautiful building.

INDIVIDUALITY OF BRICK SECRET OF BEAUTY



Tablet and Detail of Brickwork of Connecticut Hall.

"Lampooned." Today, we know that a brick wall is made attractive and beautiful, not by the sameness, but by the individuality of the brick.

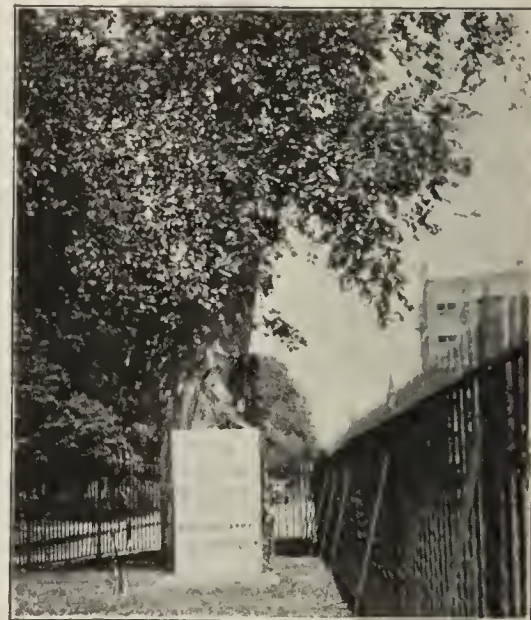
You may note I have wandered away from our morning's purpose of looking up old brick buildings, having become in-

terested in new brick buildings and having found them so capable of teaching us a lesson that there was just a little doubt in my mind whether it would not be about as well to study present day architecture as to devote our time to the old buildings. But a few moments later when we stood at the entrance of Hollis Hall, over in the old part of the grounds, and read the inscription on the tablet placed in the wall near the end of the building:

"Built by the Province of Massachusetts Bay in New England in 1763. Used as Barracks for the American Army in 1775-1776."

and then went over to Massachusetts Hall and read on that tablet:

"Built in 1720. Occupied by the American Army 1775-1776." a sudden strong realization of the past took possession of me. It's all right to study present day architecture, but I must confess as I stood there and looked at those old buildings—the old doors, the worn doorsteps, the brick walls, and the individual brick that formed the outline of doorway and window—and realized that nearly a century and a half ago there stood where we were then standing, groups of soldiers— young men dressed in the continental uniform of their day— talking of the affairs of their times as we were discussing the affairs of our day, it needed only a little imagination on my part to see the door open and an officer of the day step out and give them orders that meant life or death to them, but life to our Country. They were making history—we were only learning history. What a difference! and how our morning's mission seemed to shrink to such little importance compared with the greater things of life. These men had such love of country in their very vitals that they were ready to suffer and die, if need be, and for what? and for whom? That



The Famous Washington Elm, of Which Everyone Knows the History.

America might be made a country free for you and me to live in. The very ground, the buildings, and each individual brick seemed to throw out an inexplicable something that gripped me until I saw more was to be learned from this trip than just the commercial side of the brick business.

SENTIMENT MANAGES TO GAIN HOLD

I have visited the battle grounds of Saratoga, Bennington, and Bunker Hill, and have stood and looked with admiration at the granite shafts that mark the spots where events took place that meant so much to our country. I have viewed the granite blocks as they pile one above the other until their tips are almost lost in their great height. And as high as they are they are none too high to symbolize the appreciation of a grateful people for the deeds done which they commemorate; and as substantial and solid as they are they are none too substantial and solid to impress us with the example of those who fought and died for us. But here in Cambridge stand these old brick buildings—not monuments, as generally understood—but in reality more than monuments, for they are a part of the great events themselves,—and we are all just a little proud that they are built of brick, and that we are brickmakers. Tho we took careful note of the

excellent condition of the brick in these old walls, yet something of the importance of this investigation had slipped from my mind, and I saw that association with these buildings had exerted such an influence on me that my thoughts were centered on the great happenings of the days of yore.

WASHINGTON ELM HOLDS ATTENTION

That something of this same feeling had taken possession of Mr. Stoddard was exemplified a few minutes later. After leaving the Harvard grounds we came to a little enclosure inside of which stands the trunk of an old elm tree with a few gnarled limbs pointing upward and outward—upward to our country's ideals, and outward to our country's possibilities. Just inside the iron fence surround-

ing this tree is a monument on which the following is inscribed:

"Under this Elm on the 3rd day of July, 1775, George Washington took command of the American Army." And I remember how eagerly Stoddard jumped from the car with his camera, and with what fervor he said: "This is great. THIS IS GREAT! I must get a picture of this."

So I say Stoddard caught the same infection I had—anyway it seemed as if we had both been bitten by the same bug—as today I can't see much in the old Washington Elm in Cambridge that pertains to the brick business, which was all we had in mind when we started.

(To be Continued)



WHAT *to* EXPECT NOW *the* ROADS *are* BACK

"BETTER SERVICE" has been the basis for the almost unanimous demand that the railroads be returned to corporate control. At the same time it is realized that until the transportation machine is improved there can be no striking change in the situation. Patience on the part of the railroads is urged by President Hustis, of the Boston & Maine, in a statement in a recent issue of "American Railroads." Patience on the part of shippers is counseled by the traffic manager of the San Francisco Chamber of Commerce. Addressing the public in general, Stanley Frost, who is writing a series of articles on the railroad situation for the New York "Tribune," says:

"There will be no immediate change that the public can see. All the present agencies will continue, the consolidated ticket offices will work as usual, the same train schedules will be kept, fares, freights, all will be unchanged for a time, and will be altered, if at all, only gradually and after the most careful consideration by the joint councils of railroad managers. The actual transfer, the change that will take place on March 1, will simply mean that the control centered in Washington will cease, and that the regional directors will step out, leaving the roads themselves to function as at present, and under the same executives, at least for the time.

"Nor can there be any change in train service for a long period. The Pullmans will continue to be crowded; there will be persons standing in the aisles of the day coaches; there will be much the same troubles with locomotives and much the same annoyances as these which have caused such great exasperation in the last two years.

"The reason is simple—the railroads will not have on March 1 any more cars or locomotives, or better road beds, or more efficient workers than they have on February 29. And the roads will not have money to buy more equipment or credit to borrow or build upon for many months. Further, if they had, it would take three years for all the car and engine shops in the United States to supply the present deficiencies.

"There is only one slow change in the public's favor which may begin to show itself shortly. That will be, if it comes, in the attitude and efficiency of the railroad personnel—in the kind of treatment and service the traveler gets and in better condition of cars, engines and roadbeds. But it is uncertain as to how much this will amount.

"There seems little doubt that there has been a decline in morals since Federal operation began. The public has spoken of it loudly and often, and the Railroad Administration, while it has made some explanations and a few denials of specific charges, has in general admitted the situation. There has been impudence from agents and trainmen, there has been much inefficient work. Railroad men say that discipline has gone to pieces.

"But all these things have happened, as well, to corporations which were under private operation. New York City's telephone service illustrates this. The Railroad Administration does not believe that, considering the general unrest, and the growing feeling of power among the workers, the private owners can do better.

"As for the freight service of the roads, there is a shortage of more than 50,000 cars today and the railroads will be unable to buy more. The trains and rails are overloaded with unusually heavy traffic. Here, too, nothing can be hoped for except, as with the passenger service, thru improvement in discipline and efficiency.

"One thing that the return of the roads does restore is completion in traffic, and the solicitors will be hunting freight with perhaps a little more than their old keenness. There have been many changes in traffic under the government; freight has been diverted from some roads and given to others; certain lines have been filled up with low-paying freight like ore and coal; short routes have been insisted upon—all in the interests of the public service, but to the detriment of certain roads. These roads want their traffic back; must have it if they are to avoid disaster. The roads that got it, also want it.

"For these reasons, both in freight and passenger traffic, it is certain that the railroads will do all that is humanly possible to give service of the kind that will win and hold business."



"Representative Negotiations"

The committee on labor relations of the Cleveland Chamber of Commerce has formulated a tentative labor relations policy for Cleveland. The report of the committee advises employers to take workers into their confidence and place financial and other information before them; opposes compulsion by either employer or employe to maintain a union or non-union shop, but recognizes possibility of mutual agreement of this character; recognizes that eight-hour day has been adopted as standard in many industries and establishments; declares that public's right to service is above employe's right to lock out; and advocates uninterrupted service to public pending settlement of disputes; recognizes that public interest requires increasing production; cost of living is given chief consideration in wage determinations and overtime work is discouraged and Saturday half holiday encouraged; term "collective bargaining" is to be replaced by "representative negotiations," defined as providing for negotiations between an employer and a committee of his employes aided, if they desire, by a competent advocate or adviser of their own choosing.

MAKERS *of* MATERIAL AIR OPINIONS *on* BRICK- LAYER QUESTION

Clay Products Manufacturers Comment on State- ments of Union Official at Columbus Convention

WHEN those who had in hand the arrangement of the program for the recent annual meeting of the Common Brick Manufacturers' Association of America put Thomas R. Preece, vice-president of the Bricklayers', Masons' and Plasterers' International Union, on the program as one of the speakers, they probably little realized what a "hit" Mr. Preece's talk would make. This address was reproduced in the February 24 issue of *Brick and Clay Record* under the title "No Restriction on Bricklayer Apprentices."

After expressing his appreciation of the privilege of addressing the common brick manufacturer, he extended an invitation to the brickmakers to reciprocate by attending forthcoming gatherings of the bricklayers, including national and state meetings. In fact, he *urged* the attendance of the manufacturers at such gatherings. He said that the bricklayers were opposed to the use of prison made brick; that so far as the union was concerned, there was no restriction on bricklayers, either by law or otherwise; he called attention to the unusual skill required on the part of the bricklayer, and said that one could not learn the trade as rapidly as he could other trades. "It takes from three to four, and sometimes five years to make a bricklayer," said Mr. Preece. "But the great majority do it in three."

He said that the contractors were to blame for the shortage of bricklayer apprentices, because they did not want to be troubled with them. "When anybody tells you that the bricklayers try to restrict the apprentices, remember that." The speaker stated that a bricklayer can lay 1,400 to 1,600 brick a day. When he has done that, he has done a good day's work.

In addition to a reproduction of Mr. Preece's address in the aforementioned issue of *Brick and Clay Record*, a reprint was made of this talk and sent to a large number of clay products manufacturers with an invitation to express their opinion regarding the remarks made by Mr. Preece at this convention. A number of replies have been received, and these are given below. It is unnecessary to discuss these opinions, as they speak for themselves.

CONTRACTORS NOT TO BLAME

"The rule of the local union in Reading (Pa.) is that one apprentice is allowed to every six journeymen on a job. The contractors here are not to blame for shortage of bricklayers, we think. They would be pleased to have one apprentice to every three journeymen."

BRICKMAN AND CONTRACTOR GIVES OPINION

"Replying to your letter of March 5, the writer was engaged in the contracting business for about six years. During that time he had two apprentices. Very few contractors in this city care to bother with an apprentice. I do not know of but one contractor in Charleston, at this time, who has an

apprentice boy. I am rather inclined to believe that the contractors have found them a loss to them, and for that reason do not care to take them."

BOYS NOT WILLING TO GET THEIR FINGERS DIRTY

"In replying to your letter of the 5th, will say that we have not had a great deal of experience with bricklayers. We have noted, however, the lack of new material learning the trade. There seems to be no boys in this community willing to get their fingers dirty. White collar jobs at half the price appeal to them more. We had one young fellow here who worked as an apprentice for three years. He will never make a real bricklayer, and yet he is getting \$1.35 per hour in Akron, Ohio, on general contract work. I have since been unable to get another apprentice on the job. We know of no line of work where men are so badly needed nor one in which so few young men are learning the trade."

MUST AVOID COOPERATION, SAYS BRICKMAKER

"There is no great shortage of brickmasons thruout the country, to our minds, altho there may be a severe shortage in spots, like there is in all kinds of labor.

"There is no doubt, however, that apprentices should be coming on all the time, and contractors will not object to them if they are paid upon the basis of what they can do, in other words, not to receive the full pay of a full-fledged brickmason.

"However, the thing we must most avoid is cooperation with the trade, going only so far as to promote mutual welfare."

LACK OF BRICKLAYERS RESTRICTS BUILDING

"We have read with interest what Mr. Thomas R. Preece had to say at the convention of the common brick manufacturers. With respect to the local situation, wish to state that the brick contractors have not been taking on apprentices during the past three or four years. There has not been very much brick work done in this locality during the past two years, and as a result many of the journeymen have gone to places where there has been work. Thruout last year there were not enough brick masons in Springfield to do the small amount of work which was to be done, and as a result building was more or less retarded. As soon as conditions become more normal we will make it a point to take up with the brick contractors the matter of taking on some apprentices, and do what we can to help the cause for the use of more brick."

LET UNION GRADE ITS MEN

"I am inclined to believe that Mr. Thomas R. Preece has hit the nail on the head in his statement that contractors are responsible for shortage of bricklayers.

"If we have any work to do, we try to get competent men,

as we cannot afford to delay by using those that are incompetent, yet a man must learn the trade.

"If the bricklayers' unions will grade their men so that the man who is just learning does not take the same rate of pay as the finished workman, they will readily find the contractor and builder will help them develop apprentices into finished workmen, but our experience has been that if a man could sprinkle a little mortar and handle a trowel, he must get the full rate of pay, altho he cannot build a corner that will stand.

"The real trouble is that the unions are short-sighted in demanding a certain figure for workmen in their craft irrespective of their ability. In the old days this was not true, but it is true today, and is one of the faults that should be corrected."

WHY CONTRACTOR OBJECTS TO APPRENTICES

"The controversy between the bricklayer and contractor has many angles, and there are always two sides to every question. The bricklayer claims the contractor does not want him to put on apprentices, because they take up too much time and delay the work. However, the contractors claim they are willing, glad and anxious to put on apprentices, if bricklayer will work an apprentice in such a way as to not interfere with the operation of building or retard the work of the regular bricklayers. It seems the contractors' contention is that when bricklayer puts on apprentice, he slows up entire job, on account of apprentice, and for this reason they object.

"From contractor's viewpoint the bricklayer wants to train apprentice entirely at cost of contractor, for not only the apprentice's work but contractor must also suffer on account of apprentice getting in way of other bricklayers. Occurs to us, without going into the matter thoroly, if the bricklayer would consent to have apprentice work in such a way he could learn the trade without interfering with work, the contractor would be glad to do this, but so long as job suffers because of apprentice, the contractor will object."

SEES BIGGER POINT IN POSITION OF THE SPEAKER

"We have read very hurriedly the talk given by Thomas R. Preece at the Common Brick Manufacturers' Association, and consider it extremely interesting. We know nothing at all about the difficulty of restriction on bricklayer apprentices, except second or third hand. We have always understood that the laborers have been very strong in their restrictions of the number of apprentices. However, we feel that the important thing about this article is the fact that a representative of a labor union addressed a meeting of the manufacturers.

"We believe it is an innovation for an employe to address an organization of employers, but we feel that is the proper attitude, and we should have more of it. We should like to see an article published by you, giving a talk of an employer before a labor union delegation. The best way to get together, is to get together. We believe that the average man in the long run desires to be fair and square by the other fellow. The trouble is that the most of us do not know the other man's point of view. Ignorance or indifference is at the bottom of most disputes. When both sides can meet face to face, provided both sides are willing to be fair, then the solution of most of our labor problems has been reached. The trouble is usually that both sides are not playing on the square and they know it. Best of luck to you in your good work."

HAVEN'T A FIRST CLASS BRICKLAYER IN TOWN!

"The situation in this territory (South Carolina) is entirely different from that as described by Mr. Preece, and is due largely to the fact that we have only negro bricklayers in

Sumter. I might go further and say that *we haven't a first class bricklayer*. I say this with regret, because *it affects our business*, not to be able to have our face brick properly laid up. Only last week a New York customer who was here, marveled at the effects we had obtained with such poor labor. We have heard no reports or discussions of any kind with reference to contractors in this section being opposed to apprentices. In fact, they were so rushed that they would welcome apprentices to push the work along. The union here, composed entirely of negroes, are demanding ninety cents an hour. Dissatisfaction is caused by the fact that there are a few who have some speed and do comparatively fair work, getting the same price as the plugs and slow ones on the same job. I have heard the first mentioned bricklayers complain about this themselves. The contractors are not complaining about the price the union demands, but about the quality and quantity of work done. Our only reason for replying to your letter is because this information may be of some good to the association and to the bricklayers' union."

OBJECTS TO TRADE SCHOOL BRICKLAYER

"I have read your letter of inquiry and also the address of Mr. Thomas R. Preece, and must bear him out in saying that there is no restriction on bricklayers' apprentices, that I ever heard of, but the bricklayers do object to the trade school bricklayer, for he is no bricklayer. He does not know how to build a wall story high, and one bricklayer will lay more brick in one day than two trade school bricklayers and do better work. I have seen it tried out.

"One reason that there are so few bricklayer apprentices is because the contractors take the jobs so cheap that they cannot be bothered with the would-be bricklayer, and have to employ the man that can lay the most brick, so that the contractor can make a few cents on the job. The trouble is that everybody wants his work done too cheap, and does not take into consideration that the other man must live and cannot perform as good work while taking it so cheap as he could if he got what the work is worth.

"Take the brick manufacturers up to one or two years ago and they were asked to make prices on so many thousand, and when they did they were told that they were too high, that the brick could be bought from 'A' or 'B' for so much and cause the price to be cut, when the contractor had never asked for any price from any other plant. That caused one brickmaker to cut his own price in order to make sales, therefore, he was not only robbing himself, but was robbing his men that were producing his brick and making undesirable citizens of his men and their families, also causing other brickmakers to do the same thing or go out of business."

CAN LEARN IN SIX MONTHS

"It is only necessary to discuss one statement made by Mr. Preece, 'that it takes from three to five years to make a bricklayer.' Such a statement is simply silly, as less than five per cent. of the average bricklayers receiving full union wages are only able to complete the simplest form of brick work. They have little or no idea of proper construction and few, if any, can read a blue print intelligently or without assistance.

"Anyone with a will to learn and a fair amount of intelligence can learn all that the average bricklayer is required to know in six months, and many apprentices are able to do better work in that length of time than older bricklayers who have spent their lives at the trade. It is simply a question of one's adaptability.

"It is my understanding that the local unions set forth certain rules governing apprentices, that they must serve three years, and are only allowed to do certain kinds of work during that time. Furthermore, only one apprentice is allowed to a contractor for each five or six journeymen bricklayers

employed. In my opinion the three years' apprenticeship is entirely too long for the average boy who wishes to get ahead. The large percentage of the young men who have made up their minds to become bricklayers get discouraged and find other employment where their efforts will receive quicker returns in a financial way."

HAVE CERAMIC SCHOOLS TEACH BRICKLAYING

"In response to your request of March 5, would say that, as a graduate of a ceramic school, the bricklayer proposition might be relieved somewhat by these same schools.

"When I graduated and took a job on a brick yard, I knew about as much about laying brick as a mine mule, and in a few years I had occasion to tell bricklayers how to lay brick for me, consequently I left the school lacking a knowledge that would have helped me wonderfully in the business.

"Brick laying as a profession (you can call it a profession, because they get more pay than the average ceramic engineer) could be taught at the ceramic colleges by master bricklayers procured as teachers from the unions. This is done with success by the Toronto Technical High School, in Toronto, Canada.

"The average brick yard does not hire union bricklayers for repair work, but takes a handy man and breaks him into the work. They might enlarge on this opportunity as a source of bricklayers.

"With the ceramic schools putting in practical courses for bricklayers and the brick yards making an opportunity for a school at their plants, we might add a few more trowels in every community."

LAI D ONLY 700 PER DAY ON HIS HOUSE

"We know of no one working an apprentice in laying brick around here, and it might be well to add that the wage that an apprentice gets would not keep him very long, unless he lived with his parents, and they had plenty of money to keep him. We *can* say that there is one part of the trade that does not have to be learned now, and that is the usual fight with 'John Barley Corn' every week, and it is queer that the writer has not been able to find an apprentice since the country went dry.

"We do not know whose fault it is that there are no more boys learning the brick mason trade than there are, but there is one thing sure, and that is, there are few bricklayers that are looking for work, most of them looking for a 'position.' There are exceptions to this, and you find men that try to do an honest day's work for an honest day's pay, but you hardly ever see a brick mason turn his hand to do anything unless he lays brick. He is not like the average man, willing to do something else when there are no brick to lay. They are like the man that operated a hotel in Arkansas and did not have a guest for two years, and the first man that he had stop with him was asked to pay \$600 for supper, bed and breakfast, and when the guest complained about the charge, the proprietor advised him that he had been running that place for two years, and he being the first guest, was told that if it was not worth \$300 a year to run a hotel he would quit the business. I do not know that this would apply to the brick masons alone, but several other trades, professions and merchants.

"I cannot see that Mr. Preece's advice has reached the Middle West as yet, regarding speeding up and laying more brick, but it may get along some of these days. *The writer has just completed a residence and can say from knowledge that the average number of brick laid in eight hours was 700, both face and commons, per man.*

"While we are more or less inclined to lay the blame on the other fellow, the writer believes that we have had enough of blowing and note writing, and should get down to work and quit making excuses for ourselves. There is one trouble

with the unions today, and that is they do not think there is anybody that is entitled to work or live but one who carries a union card. There was a time when a union card meant something, but today it is the master of his profession that is carrying the poor craftsman, and it is my opinion that there are more poor mechanics carrying cards than there ever was and the ones having the work done are paying for the best and getting the poorest work they have had in years."

INTERVIEWS CONTRACTOR REGARDING PREECE TALK

"We are answering your letter of March 5 relative to the question of the bricklayer as related to the brick industry and with special reference to the talk of Mr. Preece, as reported in *Brick and Clay Record*, not because we feel that we know very much about the situation, but we do feel that it is so very important that we should at least acknowledge your letter.

"We read Mr. Preece's account when we first got the 'Record' with great interest, and only wish that we could believe that what he said was generally felt by the masons throughout the country as a whole.

"Talking with the leading mason contractor in our small town about the subject, without revealing exactly what was in our mind, we drew from him that Mr. Preece was very much in the habit of saying what he thought the hearer wanted said. This man claimed to have known Mr. Preece and heard him several times in the last ten or fifteen years, and that he always talked in such a way as to please his hearers, no matter what their attitude might be. Naturally if this is the case, it will decrease our enthusiasm a little in this speech. It may be, however, that this talk referred to does represent the true beliefs of Mr. Preece.

"Even so, we do not believe that it is the sentiment of the majority of masons throughout the country. Undoubtedly the heads of the unions are much more far sighted and broad minded than their members. How far they can control their policies is a question.

"We cannot give you any very definite information on the restriction of apprentices by the unions nor the amount of brick that they are laying, as a very small amount of such work is done in Streator. We will say that the average is 800 to 1,200 brick in eight hours here, and I am sure that if you tell the average Streator mason that he ought to lay 1,400 to 1,600 brick a day, as Mr. Preece says, he would say that it could not be done. I think this is getting right at the meat of the matter, because *it is not what the mason gets per hour or per day that makes the cost of brick so high, but it is the amount of brick he will lay for a dollar.*

"If he can be made to see that by doing a large amount of work and reducing the ultimate cost of brick construction, he would decrease the general amount to such a degree that many more brick would be used, and he would be employed more nearly the year around with so much more yearly earnings, that a tremendous benefit would be done the brick industry as a whole. With all the advertising and publicity we may do for our product, it will be completely canceled if the cost of brick laid in the wall is so high as to be generally prohibited.

"We hope your magazine may in some way help to bring about a satisfactory solution of this important problem."

JOURNEYMEN HAVE NOT SAME BROAD VIEW

"The writer has read with considerable interest the reprint of an address by Mr. Preece, you sent under date of March 5, and are glad indeed to have public expression of this kind from an official of the bricklayers' union.

"We presume the bricklayers' union is a good bit like the railroads or most any organization having a large number of scattered units. *That is, there are at the head of the organization some big, broad-minded men with human feeling and wisdom.* But there are likewise down along the list many

obscure members who get an exaggerated idea of their importance and think they are the whole thing. To our way of looking at the matter, it is largely these smaller minded men having the actual point of contact with the public that are responsible for a lot of the misunderstandings and hard feelings that the public experiences toward the bricklayers' union, railroads and other organizations.

"We ourselves presume we are only like other people who have had anything to do with union bricklayers. But we know from numerous instances where the men have absolutely refused to allow apprentices or helpers to do anything at all by which they might gain some experience or get a start in the art of bricklaying. As in this section the union workmen refuse to allow a helper to even pile the brick on the wall in readiness for laying. And refuse to allow them to cut any special shapes, even at points removed from the actual place of laying, and go to the extent of attempting to boycott any employer who employs men to do any of these things, who are not union bricklayers.

"In view of these things, as we ourselves have seen them, it does not look to us as tho the rank and file of the bricklayers have the same broad view that Mr. Preece has outlined.

"Mr. Preece's statement with regard to the length of time it takes to make a bricklayer does not meet with our viewpoint, as our experience is that a good handy man can on rough work learn to lay a good quantity of brick with a couple of weeks' practice, provided he has some one to lay out the work in joints for him.

"A workman is, of course, worthy of his hire, and the well designed brick building containing a quantity of high-grade brick laid out in an architectural manner is a mechanical job calling for a high degree of skill and consequently should be paid accordingly. But the common brick work called for on factory or store construction is, in our mind, a job that a general handy man with very little instruction could participate in, and if the bricklayers' union could see the point to make a distinction between these two classes of bricklaying, it seems to us it would go a long way toward solving the bricklaying problem."

FROM A MANUFACTURER ONCE A BRICKLAYER

"In 1903, at the age of sixteen, I had the opportunity to go to work as a bricklayer apprentice on a union job, but for the reason that I had no relative in the local union the contractor who wanted me was told that he was not entitled to any. A year later in another city I was taken on, and after serving a little over three years I received my card that entitled me to travel as a bricklayer. Since then I have had charge of brick construction in different steel and blast furnace plants, and for two seasons I operated a shale brick plant, so you are going to get my opinion from practical experience in dealing with bricklayers.

"Mr. Preece in his message should have stated the reason why large contractors object to taking on apprentice boys. If he had gone that far, the blame would not be on the big contractors, nor on the international union, but on each local bricklayers' union. A lot of the apprentice boys are 'wished on' to the contractors by members of the union, and where some of them make good, others turn out just like the one Mr. Preece mentioned working for the George Fuller Co., and after a contractor has had an experience with one like that he is better off to be without them. A willing, industrious apprentice is a money maker to any contractor, but one that is not that, spends most of the time interfering with the other men, and, therefore, is not wanted. The different steel plants and contractors who employ non-union men or run an 'open shop,' I believe have turned out more good mechanics, especially on fire brick construction, than has the B. M. & P. I. U. These men did not have any four

or five year contracts to finish their trade on. Most of them started in as laborers and were promoted and they simply had to make good or go back laboring.

"A lot of them, whenever they get the opportunity, pull out and join the union, to be benefited by shorter working hours and a better price. The average boy will pick the trade up in three years. A good one will do it easy in two, but I'd not believe any boy should have more than four years to learn the trade. If he cannot do it in four, my experience has shown me that he does not care—the ambition to be a mechanic is not there.

"This has been a hard winter for bricklayers that had to depend on outside work, and in a good many places only half or less of the local members get anywhere near steady employment. If any one of those large construction companies should come into a city like that next summer and ask for two apprentice boys they would get them, if they would take what the local members offered, but if they insisted upon picking their own boys, the local would take a vote on it, and the majority vote 'no.' Their argument would be, 'What's the use of making more bricklayers when there is not work enough to go around all the year now?' If the same contractor took it up with the international officials, I have no doubt but that he would be allowed to take on whoever he liked, but very few contractors go that far.

"Mr. Preece has now started to get everybody together for a better understanding. Let everybody now, as he says, put his shoulder to the wheel and work in harmony. That's my sincere wish."

ONE-TIME EMPLOYER OF PREECE WRITES

"Replying to yours of March 5, will say that I endorse Brother Thomas R. Preece's statements as facts. I have had considerable experience along the same lines, and have been a member of the bricklayers' union since 1884. For over twenty years I contracted brickwork; and in my time, as a contractor, I turned out seven apprentices—two of them are prominent contractors in New Orleans, La., today. I am a strong advocate of the apprentice system. Four of the apprentices above mentioned made good in less than four years. The other three did not come up to the standard of a finished bricklayer, altho they would fill the bill on a rough wall.

"I have also had experience with runaway apprentices and have never seen one of them that I could vouch for as a bricklayer, and, therefore, could not recommend him to a contractor as capable of earning his money—that is, standard wages. On the other hand, I have always noted that the boy who stays with the contractor he is bound to, and finishes his time, becomes efficient and qualified to become a member of the union.

"Brother Preece did not tell you that the bricklayers' union demands a standard. That is, an applicant must be vouched for by three members of the union—that he is capable of earning his money, or able to do a standard day's work. False statements have a fine of \$10 attached to them, and the applicant is rejected if not up to the standard, thus protecting the contractor and the public, also stabilizing the union, by giving a fair deal to all concerned.

"One obstacle in the way of a bricklayer apprentice, is that most of our general contractors are carpenters or civil engineers. *Few bricklayers are general contractors*, and it is often very difficult to get any of the large contracting firms to take on an apprentice. It is the small contractor that runs the risk, and he very often is afraid to take on an apprentice, for fear he would not be able to keep him going for the three or four years' time required to learn the business.

"Now, there are many false ideas as to the number of brick a bricklayer should lay for a day's work. *I have worked hard*

many a day and did not lay over a hundred brick. Then, again, I have laid twenty-five hundred. It all depends on the class and nature of the work. On an ordinary common struck joint job, fifteen hundred brick is a good average for a day's work. I have employed from forty to eighty men and have never had over the average of fifteen hundred per day.

"I have known Brother Preece a good many years, as he was in my employ twenty-five years ago, and he was a good bricklayer. He is also right on the old age question. The old timers learned to lay brick, not cement. Get back to the $\frac{3}{8}$ and not the $\frac{1}{2}$ joint. The cement age got in its work over the brickmaker and bricklayer alike thru the architect, by the adoption of $\frac{3}{4}$ to 1 inch joints in the latest modern construction fad. Big joints look noble, but the small joints look neat and practical and are less draw on the sand bank and more on the brickmaker. To get back to laying brick and not mortar should be the aim of every bricklayer. A common brick joint should not be over $\frac{3}{8}$ of an inch to look like brick-work.

"To get back to the shortage of bricklayers. It is an old saying that the union prohibits apprenticeship, *which is not so*. But it requires an apprenticeship, and practical experience proves the wisdom of this law. It is a wise law, because it insures qualification and gives a boy a foundation to work on the balance of his life. Like the doctor, he gets his diploma to practice. In England today, while the trades are not protected by law, like the professions, a bricklayer cannot contract unless he can produce his indentures. The apprentice system should be enforced in every trade, and there would not be so much clamor about efficiency."

REFRESHING TO HEAR SUCH A TALK

"Referring to Mr. Preece's speech as reported in the current issue of *Brick and Clay Record*, the writer is very much interested. It is refreshing to hear a labor man talk the way he is reported to have spoken.

"We do not as a rule have much trouble in this locality (Maine) with getting all the apprentices we need. In fact, there has been a tendency on the part of the local union to restrict the number of apprentices somewhat; then, there has been a lack of suitable material presenting itself for apprentices.

"We could use a few copies of reprint of Mr. Preece's speech and would be glad to have you send us as many copies of it up to fifty as you can spare."

* * *

Inadequacy of Supply of New Labor

General Coleman du Pont, Chairman of Board of Inter-racial Council, stated March 16 that American industries dependent to any extent upon labor of foreign-born workmen will not be able even to replace immigrant workmen who are preparing to throw up their jobs in America and to return to their homelands at current rate of immigration. General du Pont attributed many of present difficulties of industry to inadequacy of supply of new labor.

* * *

Urges Acquainting Coming Generation With Present Day Business Mistakes

"Journal of Commerce," March 16, announces that J. H. Tregoe, secretary-treasurer of the National Association of Credit Men, in a letter sent to members of that organization, warns against further speculation in merchandise on the theory that there is a persistent scarcity of goods. Urging members of his association to stir up Boards of Education thruout the country toward taking some action which will make the coming generation acquainted with present day

business mistakes, Mr. Tregoe says that no panic in our industrial history need have happened had our financial leaders understood economic law.

* * *

Coal Commission Proposes 11% Increase

The majority report of the Federal Coal Commission, composed of H. M. Robinson, chairman, representing the public; Rembrandt Peals, representing operators; and John P. White, representing miners, submitted March 11 to President Wilson in settlement of the coal strike, recommended a 25 per cent. wage increase for bituminous coal miners. Wage increase proposed will absorb the 14 per cent. granted when the miners returned to work last November, so that actual increase is 11 per cent. over present wages. No change in working hours or conditions was recommended. John P. White, representing the miners, declined to concur in this settlement, and is preparing a minority report in which it is said he will recommend a seven-hour day and a wage increase of approximately 35 per cent.

* * *

Chances for a Panic Not One in Ten

John Moody, New York financial expert, expressed the opinion before the Washington Chapter of the American Institute of Banking, March 13, that the chances for a serious panic in the near future are not one in ten. He said: "We are at the peak of a speculative era, and while economical and industrial conditions are such as have never been experienced in this country before, due entirely to fundamental changes caused by the war, I confidently look for a dropping of prices by summer."

* * *

Calls Conference to Solve Rent Problem

The New York "Times" of March 13 announces that in an effort to solve the rent problem in New York City, Mayor Hylan sent out a call on March 12 for a conference of real estate men, building contractors, dealers in building material, labor leaders and men and firms associated with the building industry to be held March 15. In announcing the call the Mayor said he had been assured that building companies, dealers in building materials and labor will not make advances in prices within a stated period.

* * *

Proposes Compulsory Arbitration

It has been announced from Paris that the government presented to the Chamber of Deputies, March 9, a proposal for amicable settlement of all labor disputes. While admitting the right of workers to strike, the government demands that all means for settlement of disputes be exhausted before a cessation of work. Proposal establishes compulsory arbitration in industries whose stoppage would interfere with economic life of France.

* * *

The president of the Erie Railroad is reported to have said, "I am opposed to class freight rates, and to higher passenger fares. In fact, I think passenger fares should be reduced to two cents a mile thruout the country, except perhaps on certain lines serving a limited territory. . . . The railroads and the public in time will come to understand that these great enterprises can best prosper and the public be best served and protected by commodity freight rates.

WHAT THREE BRICKS WILL DO!

Being a Talk by Ralph P. Stoddard, Secretary-Manager of the Common Brick Manufacturers' Association, at the Second Annual Meeting, February 16, 17 and 18 at Columbus, Ohio—It Is One of the Best Presentations Ever Made of the Opportunity and Obligation Set Before the Brickmaker

WE HOPE at this time to close our campaign for advertising contracts in our big national publicity plan. I want to avoid as far as possible a repetition of the things I have said to you in the group meetings thruout the country which many of you have attended. In order to do that, we have tried to reduce to pictures and charts much of this argument and I am in hopes thru these to visualize to you the situation in the industry and our plan, and I will not take much of your time in talking to you about that. We have gone deeply into this matter and studied the situation with these men who have just spoken to you and with other advertising experts. We aim to get for you many dollars for every dollar that you put into this advertising. I know that it is the only way that we can keep you with the organization. You will not be satisfied, nor

will I, if your dollar simply brings you back another dollar. We must do much better than that.

THE SALE OF BUILDING MATERIALS

In the chart No. 1 we show the condition of the building material market between the years 1900 and 1918. These figures are from a government report which is the best authority we have. You can see that lumber as a building material is far above the others in the chart. In 1900 they sold \$525,000,000 worth of lumber. The next nearest competitor is structural steel and iron. These started at around \$50,000,000 in 1900 and are now around the \$200,000,000 mark, combining the two materials.

The next nearest material is our good friend, common brick. We start in 1900 at \$25,000,000 and it crawls up slowly to about \$50,000,000 in 1908 to 1910. Since that time it has been dropping down—just steadily falling off.

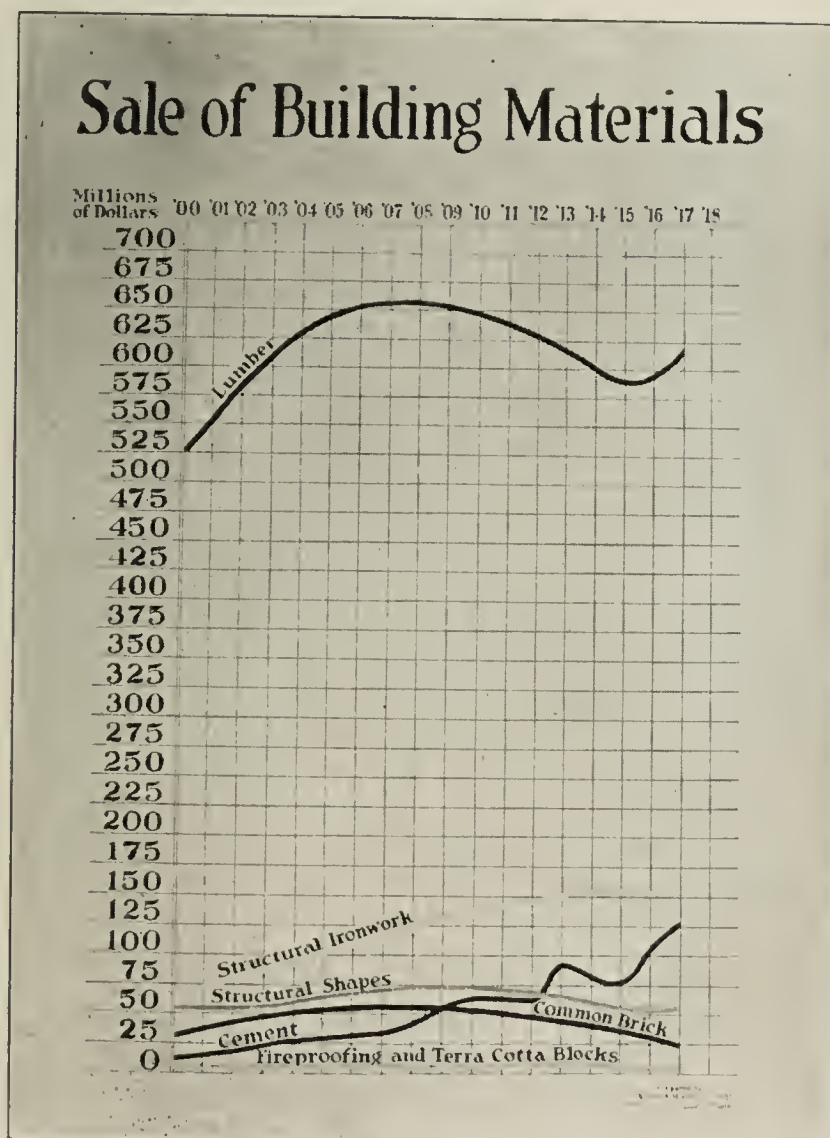


Chart No. 1.

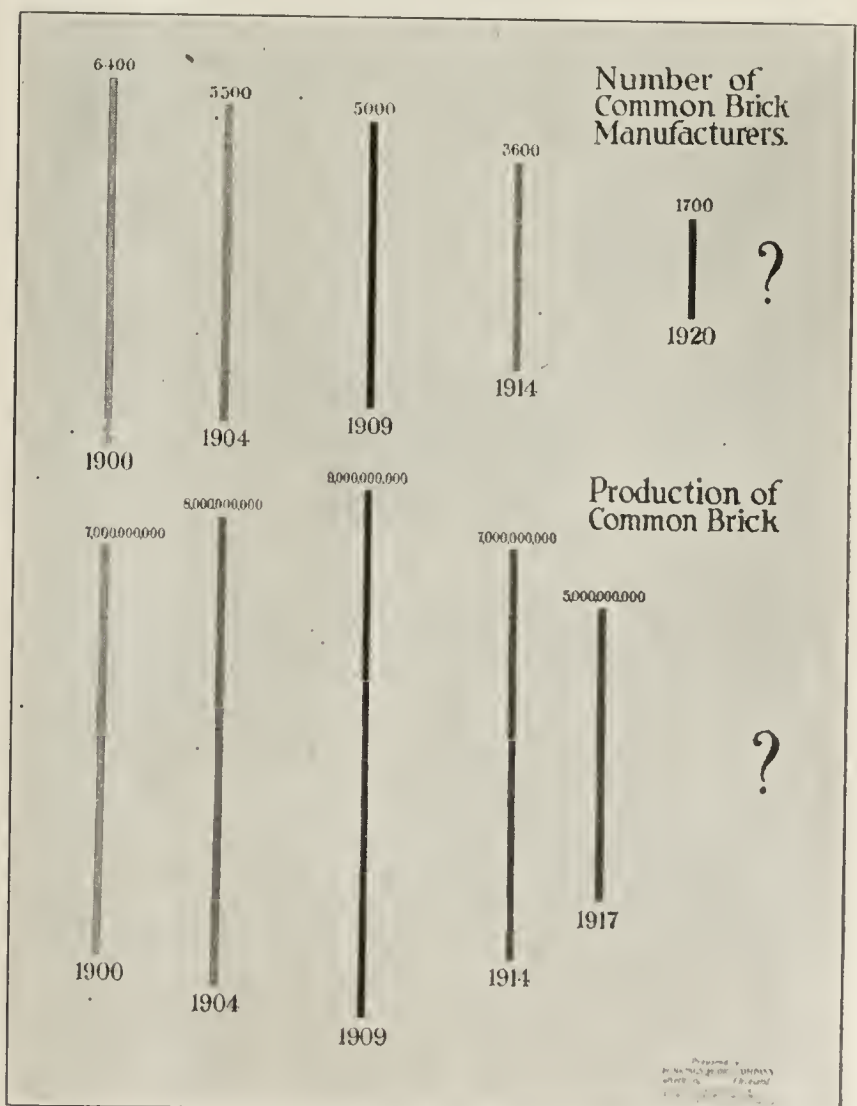


Chart No. 2.

You can see that cement started at a very small amount and began rapidly to go up in about 1906. It took a re-

1,000,000 New Homes Will Be Built in 1920 How Many of Common Brick?



If all the houses built in 1920 were built of solid Common Brick



Present Use of Common Brick in building



If 1 out of 20 Houses Were Built of Brick



If 1 out of 10 Houses Were Built of Brick

Chart No. 3.

markable jump with war conditions in 1916 and 1917 and is steadily climbing, having long since passed common brick by reaching \$125,000,000 in 1917.

The last line on the chart shows fireproofing and terra cotta. That includes hollow tile. This commodity maintains an even line because it is based largely on the use of terra cotta and it is only in recent years that we have had the hollow blocks. According to later information not shown on this chart, it is already increasing rapidly in consumption.

NUMBER OF PLANTS AND PRODUCTION OF BRICK

On chart No. 2, we have lines showing the number of

Which ?



Chimney only.



Back up and chimney only
No partitions.



Complete house including
partitions.

Why Be Satisfied with 3000 Brick when You Can Get the Whole Order for 63,000 ?
Let's Go After the Complete House and GET IT. It Means an increase in sales of 2000% to manufacturers of Common Brick.

Chart No. 4.

common brick plants and the production of common brick. These figures are also reported by the Geological Survey.

This chart tells its own story. In 1900 there were 6,400 brick plants reported; in 1914, 5,500. That number became too many and some of them had to go out for various reasons. There were some combinations, of course, but the lack of business had a great deal to do with it. In 1909 there were but 5,000 plants reporting, and 5,000 became too many, owing to the slackening demand. Then the number dropped down to 3,500 in 1914. Now these are government figures, there is no question about them. In 1920, according to our own best information, there are but 1,700 brick plants in operation in the United States, and we have spent considerable money in trying to make this list complete.

Just draw a line across the top of these marks and another across the bottom and you will see where we are headed for. We are rapidly approaching a vanishing point.

Comparative Use of Well-known Building Materials.



Lumber



Cement



Common Brick

Prepared by
THE NATIONAL BRICK ASSOCIATION
Washington, D. C.
Under the supervision of
Joseph E. Duggan, Secretary

Chart No. 5.

That is the absolute tendency of our industry. If, with normal conditions, plants become too many for the demand, there must be again a cutting off of this line, and steadily it will grow shorter and shorter until, as Allen E. Beals, of the Dow Service Co., reported at Albany, unless something is done to stimulate the demand for common brick, it will soon pass as a basic material and become a specialty. Mr. Beals made a number of prophecies at that meeting regarding building conditions and thus far many of them have come true. I do not think there is any doubt about his knowing what he is talking about when he predicts this sort of future for you. The other lines on this chart show the production figures and show that common brick reaches its maximum of 9,000,000,000 production in 1909, and since then it has been steadily dropping off.

POSSIBILITIES FOR SALE OF BRICK THIS YEAR

Chart No. 3 represents the present use of common brick—our market today being represented by the smallest one of the houses in the picture. The next larger picture shows the volume of this commodity that would be used if one out of twenty houses now built of frame could be converted to brick.

The next larger picture shows what we would have if one out of ten houses could be converted to common brick. If all of the houses in 1920 were built of common brick, you can visualize your own brick business and what the effect of this would be upon your pocket book.

Our campaign does not consist alone of saying, "Build with Brick," but we are trying to introduce every possible use of brick. We started with house construction because that is the greatest need of the day. A little later we are going to talk about garages, apartment buildings, stores, factories, and every other type of building. Even in the home we are going to suggest a broader use of the material than there has been in the past. There are hundreds of places where this material could be used with profit to the builder, but no one has ever made the suggestion to him. We are going to show the economy of using brick for foundations, for brick piers, for lining the kitchen, especially back of the range, for interior partitions or artistic fireplaces, for garden walls and walks, for ornamental gate posts, and a hundred other uses that are not in common practice today.

GO AFTER THE "ALL BRICK" HOUSE

Our next chart, No. 4, shows in the first picture the ordinary brick job thruout the country. Go where you will, with few exceptions, and you will find a preponderance of frame buildings. Chicago is building brick homes exclusively, so is Baltimore, Washington, Philadelphia, St. Louis, Toronto,

Just think of the possibility of increasing the consumption of brick in the 600,000 houses alone which are built



Chart No. 8.

every year under normal conditions. Without mention of the construction that cement, metal lath, gypsum, and other products take away from us, this one field alone offers a sufficient opportunity by proper cultivation to keep your demand up to the high mark where it is today, and even go far beyond that.

Right at this point I would like to say a word about the attitude and policy of this association regarding face brick. Our policy is told very clearly in all the books and litera-



Chart No. 7.

Denver, Reading, Pa., and a few others, but nearly everywhere else you will find that when a residence is built the brick man gets an order for about 3,000 brick for the foundation and chimney. If he can induce the builder to use common brick for backing up, letting our friends, the face brick people, have the outside of the wall, he would then sell about 21,000 brick for the same sized house. If he can prevail upon the builder to have the entire house of common brick, including partitions, he would sell 63,000 brick for this same house.



Chart No. 6.

ture we publish. We say this in substance, "Common brick in most localities of the country produce very desirable effects when properly laid. If you do not obtain the effects

you want with common brick, there is always available a very wide variety of face brick that produces delightful effects."

You who produce common brick and also make the other

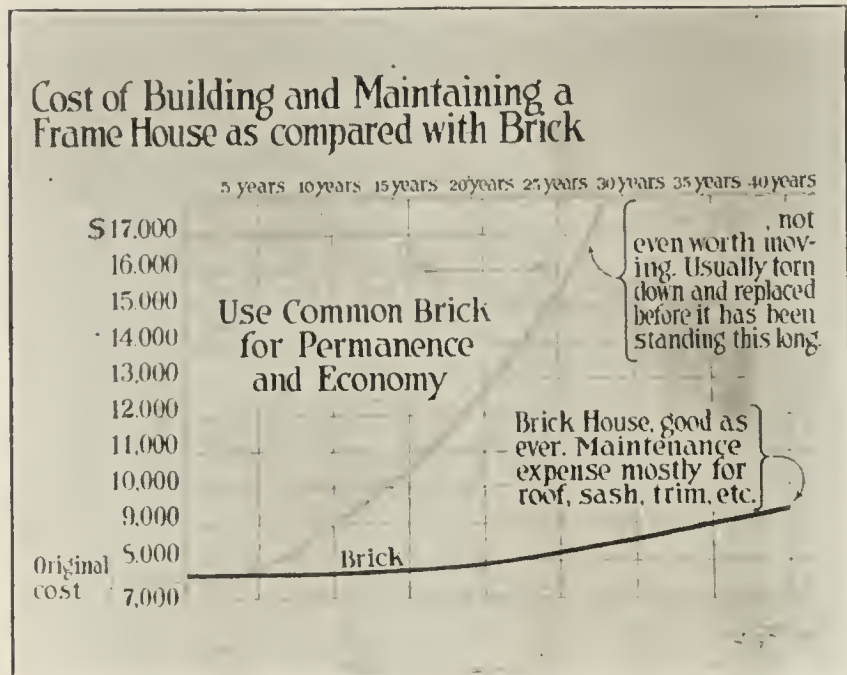


Chart No. 9.

commodities realize that we have to work for common brick alone, but we hope never to spend a dollar to hurt the face brick business. We will be very careful in that regard. I can say, however, that you simply cannot stop the use of common brick for facing purposes. The thing has started and it will sweep the country like wild fire. This commodity will be used very broadly for facing purposes, but it will come in competition with frame where economy is the big

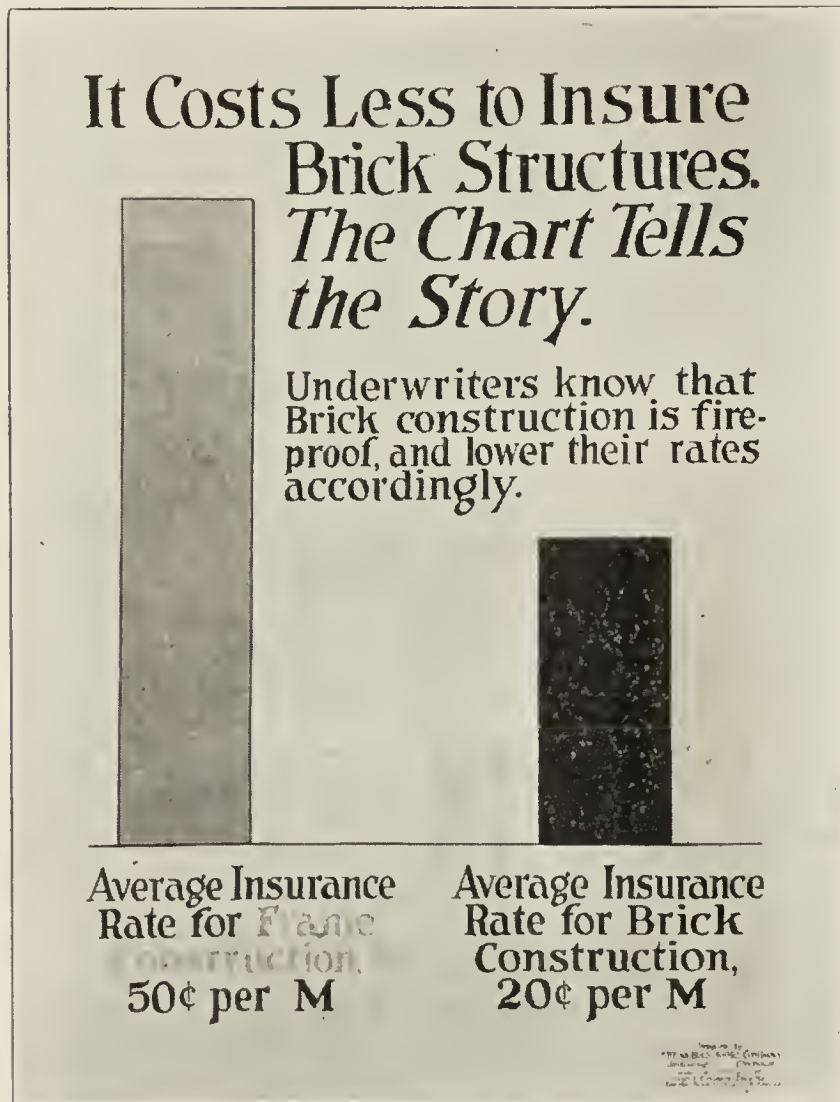


Chart No. 10.

factor, and it will never take a dollar's worth of business away from the face brick man. There is going to be enough demand to keep you all busy.

COMPARATIVE USE OF BUILDING MATERIALS

The next chart, No. 5, shows you in picture form the quantity of lumber and cement used as compared with the humble common brick. I know that you men are not satisfied with the showing. It is a simple proposition in my estimation to increase the size of this brick and have it stand up with these other commodities. That is how lumber grew to be such a large figure in this chart, simply by advertising and promotion. They have been doing it for years. The cement manufacturers a few years ago felt the need of doing the same thing, and they have been spending money liberally with the results shown in this picture No. 5. We are now at the bottom of the list, but watch us grow!

ADVERTISING APPROPRIATIONS

Chart No. 6 shows you the 1920 advertising appropriations of the best known building materials. The combined lumber associations are spending \$1,250,000; face brick is spending \$300,000; hollow tile, \$300,000; Portland cement, \$600,000;



Chart No. 11.

we hope to have a total of \$150,000. Altho this is very much smaller than any of the others, it still is sufficient to make a very good showing.

This chart also shows you some of the well known trade marks which you see in the publications month after month. Old Dutch Cleanser seems to lead the list and spends 10 per cent. of its sales income for advertising. This explains why Old Dutch Cleanser is selling at 10 cents a can and disposes of a quantity greater than all other cleaners put together, altho they charge but 5 cents per can.

These other well known advertisers spend from 7 per cent. down to 2 per cent. of their sales receipts. The Common Brick Association is asking you to spend only 3/10 of 1 per cent. of your sales price to perpetuate your business.

LUMBER PUBLICITY BUDGETS

The next chart, No. 7, analyzes the appropriation of the various lumber associations. The largest contributor is

Southern Pine, which spends nearly half a million dollars. This picture also shows some of their advertising which is probably familiar to all of you. Do you think for a moment that these lumber associations would go on year after year spending this amount of money and increasing their appropriations time after time unless it paid them to do it? They are getting an enormous return for the amount they spend, and it is this advertising which has placed lumber so far above other commodities in the volume sold year after year. These manufacturers of lumber are just as badly oversold today as you are. There is a great lumber shortage, as every builder knows, but they are not cutting down their advertising—they are increasing it because they know that in a few years we will be back to normal conditions and they will want the business. They are preparing for war in time of peace, and this alone should answer in your mind the ques-

A Familiar Sight



Why not build the whole house of Brick?
If the chimney is worth saving, surely the House is.

Prepared by THE COMMON BRICK MANUFACTURERS ASSOCIATION, 111 N. Wabash St., Chicago

Chart No. 12.

tion as to the advertising of the common brick manufacturers. By starting now, when you are so busy that you cannot meet your orders, will increase the demand for your commodity in years to come so that you will have this kind of business continually.

HOW CLAY ADVERTISING LINES UP

Chart No. 8 visualizes for you the activities of the clay products associations. Face brick has raised about \$1,000,000 for a three years' campaign and their assessment is 50 cents per thousand, or about 1.9 per cent. upon their selling price. The hollow tile assessment of 15 cents per ton amounts to 1.7 per cent. upon their selling price. The common brick assessment of 6 cents per thousand is only 3/10 of 1 per cent. Our advertising expert who prepared this chart has shown what sort of fund we would have if we made an assessment of 40 cents per thousand, showing a larger sum than either of the other commodities.

Ask any face brick manufacturer or hollow tile manufacturer who is a member of their respective associations if they would like to get out of their agreement to pay these sums

upon their production. I have asked this question in many meetings where manufacturers of these commodities were present, and without exception these manufacturers have

For Safety with Economy— Use Common Brick

The Fireproof Wall

See how the common brick is being used in the most important part of the house—the fireproof wall. It is the only material that can be used for this purpose. It is the only material that can be used for this purpose. It is the only material that can be used for this purpose.

Common Brick Manufacturers Association
111 N. Wabash St., Chicago




**Where Economy is a Factor
Use Common Brick.**

Chart No. 14.

stated openly that it was the best and most profitable money they ever spent in their industry.

You see you are not taking any chances, you common brick men. The two other associations have already started their campaigns of advertising in the popular magazines, and the results are far beyond their expectations. It is the best proof possible that our campaign will be a success also and that you men who are putting up this little 6 cents per

The Unit of Permanent Construction



THE IDEAL COMMUNITY—
every building fire-proof—economical

Common Brick Manufacturers Association
111 N. Wabash St., Chicago

**Where Economy is a Factor
Use Common Brick**

Chart No. 13.

thousand will get returns far beyond your hopes or expectations.

COMPARATIVE MAINTENANCE COSTS

The next chart, No. 9, illustrates some of the information that we have been gathering in our extensive investiga-

tion before we begin to spend any of your money. We have sent out a great number of questionnaires to contractors, builders, architects, real estate men, to get their viewpoint upon the question of building materials. It would be foolhardy for us to start spending money for advertising without knowing everything possible to learn about the field. We want to know exactly why so little brick is used in comparison with other materials and what the association and manufacturers can do to make it easier and more desirable for the builders of the country to use our materials. This

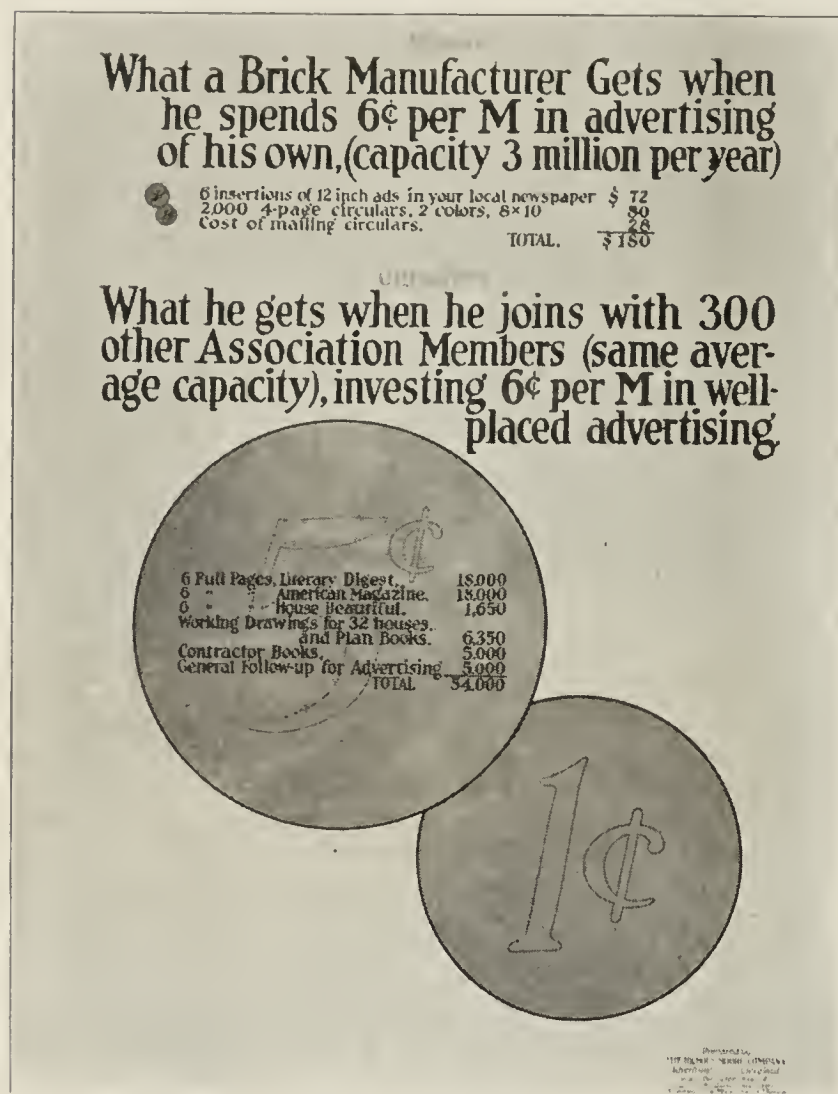


Chart No. 15.

chart shows what we have learned about the cost of maintaining frame buildings as compared with brick. The light line shows how rapidly the up-keep cost increases upon the frame building. The black line shows the very small increase upon the maintaining of the brick building. These are good points for the public to know, but they have never before had them brought to their attention.

INSURANCE

Chart No. 10 shows you what we have learned regarding the cost of insurance of these two types of buildings. The large column shows the average insurance rate for frame, and the short column the average insurance rate for brick. We will be able to prove to the home builder that he can save every year in insurance alone the price of a good suit of clothes or more, to say nothing about the many other economies of the brick house.

SUGGESTIONS FOR COMMON BRICK ADS.

Charts Nos. 11, 12, 13 and 14 show you some of the copy we have prepared and which you will soon see in full-page spaces in such publications as the "Literary Digest" and the "American Magazine," "House Beautiful," and many others. In all of this advertising we suggest to the reader that he send to us and get our plan book which will contain pictures and floor plans and full description of thirty-five small brick

houses. The man who gets this book will find that, at a nominal cost, he can obtain from you, the manufacturer members of this association, the complete working drawings for any one of these houses. We have already taken care of the contractor and the builder, and have put into his hands our book, "Brick, How to Build and Estimate," which makes it easy for him to figure a brick job and to erect the building.

Mr. Boyd, our architectural adviser, has already told you what he is doing with the architects of the country to give them a better appreciation of your material. We are carrying all these things along together so that when our literature reaches a prospective home builder he will find the architect and the contractor of his community already well informed and well enthused upon the question of brick, and, instead of discouraging him to use brick as they have always done in the past, they will be willing to help him.

COOPERATION COUNTS

Our last chart, No. 15, shows you the value of combined effort. The two small circles show the actual size of the 5-cent piece and the penny—the 6 cents per thousand which you pay upon your production. Taking 3,000,000 brick per year as an average capacity, if you undertook your own advertising campaign by setting aside 6 cents per thousand you would have \$180 to spend. This would buy for you

Six insertions of 12-inch ads in your local newspaper.....	\$ 72
2,000 4-page circulars, 2 colors, 8x10.....	80
Cost of mailing circulars.....	28
	<hr/>
	\$180

and your money is gone.

Now, by combining your little 6 cents with the 6 cents of 300 other manufacturers, all of the same average capacity which, of course, is below normal, you would create a fund of \$54,000, and this is what that amount will buy:

Six full pages, "Literary Digest".....	\$18,000
Six full pages, "American Magazine".....	18,000
Six full pages "House Beautiful".....	1,650
Working drawings for 32 houses, and plan books.....	6,350
Contractor books	5,000
General follow-up for advertising.....	5,000
	<hr/>
	\$54,000

In the latter case you get the full benefit of all of this advertising just the same as if it were done for you alone. You have the use of all the plans and specifications. You have all that you can use of all of our splendid literature and follow-up advertising. No individual or small group of individuals could possibly afford to spend the money we have already spent in doing this architectural work.

Now, we have been meeting at these brick conventions for years. You have talked about how good brick is, but never have you attempted to tell the other people about it. We have a wonderful opportunity now. I don't like to say anything that sounds like an exaggeration but after going into it as we have, I feel that it is absolutely feasible and possible to keep a demand for brick that is just as far ahead of your production as you are today. Other people are doing it for other building materials, and the man paying for these assessments is not paying for them out of his pockets. It is a legitimate item of cost. When coal goes up five cents, you consider that an added expense. You are asked to spend three-tenths of one per cent. to perpetuate your business.

Just ride on a railroad train anywhere and see the potential possibility for brick. Every building erected in the country could use it, with advantage to the owner and the builder. It is the oldest, most dependable and most economical building material in the world.

PORTABLE HOUSES *to* RELIEVE SHORTAGE

Want to Put Together, Hastily, a Large Number of Cheap, Portable Structures to Take Care of Great Need for Homes in Chicago

"Build Safely Not Wastefully" was the title of an editorial in the March 9, 1920, issue of "Brick and Clay Record." The various expedients being used to solve the housing shortage problem in Chicago, and for that matter the entire country, were pointed out. It was said: "The germ of haste is in the situation," and haste makes waste. We did not know at that time of the plan to erect portable houses in Chicago. Subsequent developments in connection with this proposal have demonstrated the truth of all that was stated in the editorial already referred to. Let us again urge the manufacturers of clay products to sound forth the advice: "Take sufficient time. Build with clay products. If you cannot build with burned clay now, wait until you can and build right, build safely, build economically." The same logic applies to the construction of roads.

TO RELIEVE the present great need for housing in the city of Chicago, a scheme has been advanced in certain quarters to build a large quantity of portable houses which can be constructed immediately, and at a low cost. It is hardly necessary to add that these structures will be built of inflammable materials, principally wood. The excuse for attempting to erect such houses, by those who are promoting the project, is that the present enormous housing shortage needs immediate relief, and since there is a shortage of building materials in Chicago, there is no hope for a remedy unless such a measure as suggested is adopted.



A View of Several Portable Houses Which Were Built in Chicago a Few Years Ago.

Coupled with this reason, others such as speed in building and cheapness in cost, are also offered.

FIRE RESISTING MATERIALS ARE AVAILABLE

Investigation of the plan reveals some interesting informa-

tion. In the first place building materials for legitimate housing are available and can be obtained. Statements from large manufacturers and jobbers handling various kinds of construction materials such as lumber, cement, lime, brick, hollow tile, and so forth, show that there is no excuse for



A Portable House of Good Design But Already Starting to Fall Apart, Emphasizing Need for More Permanent Construction.

resorting to such a scheme as is now being promoted in America's second largest city. Brick manufacturers, for instance, can supply all of the brick that labor can handle for such a project. Fully fifty million brick a month will be available after April 1, which will permit the construction of homes, at the rate of one thousand houses per month. Similar statements are offered on the part of those making and dealing in other lines of building material. Hence, the very premise which is given as the cause for erecting the proposed portable homes is wiped out and thus not held good.

A little study of the scheme will reveal some very serious aspects that will be of inevitable consequence if measures are not taken to cope with the situation. A large plot of these portable, cheap homes will soon create a spectacle that would be a blot and stain upon the city. That section of Chicago which is famous thruout the world because of its undesirable features and which is commonly referred to as "Little Italy" was formed under similar conditions. It is said that many years ago an Englishman by the name of Hull came to Chicago and later built a large number of frame houses close together and all alike in the section which is now called "Little Italy." He became quite wealthy, largely because of this enterprise, and upon his death left a sum of money for the founding of the settlement house, now widely known as the Hull House. Thus, he left consider-

able wealth for the express purpose of improving some of the undesirable features which were bred in the very district which made him wealthy.

DEPRECIATION WOULD GO UNCHECKED

If the proposed portable homes are erected it will only be a short time before depreciation will make such a district one of great unsightliness. It requires no argument to convince one of the class of people which would inhabit



General Appearance of a Few Portable Houses Which Are Practically Nothing More Than Shanties.

such homes and would permit depreciation to go on unchecked. They do not have the interest or proper ideals to preserve and keep up the appearance of the homes. Neither is it necessary to dwell at length on the fact that portable

houses would be the ones to depreciate at the greatest rapidity. Furthermore, only the lowest class of people would inhabit these houses and it would be inviting another "Little Italy" where disease, crime and misery would breed apace. Chicago does not want anything that would bring on such a condition, and neither would any other city. It is better to go slow and build permanently for safety, health and beauty. There will not be any influx of people into the city on May 1, and neither are there any people living in tents at the present time. Everyone will be housed somewhere, as they are now, and it is better to suffer the inconveniences that now exist than to build a nest from which another "Little Italy" would hatch.

"WOULD BURN LIKE SO MANY HAT BOXES"

Nothing has been said of the fire hazards that are so evident, but little need be said. J. C. McDonnell, chief of the Bureau of Fire Prevention, City of Chicago, said to a representative of *Brick and Clay Record*, a few days ago: "Such a plan would be a dangerous idea. Brick or tile houses with some incombustible materials for roofing should be used, and for a structure of the same size would cost no more. Frame, portable houses, built closely together, in large numbers, would burn like so many hat boxes."

From an investment standpoint, it is readily seen that those who purchase these homes would soon find them unsalable because of the depreciation of the houses themselves and of the entire district. When an entire district has depreciated equally the spectacle formed is very much worse than when only a few homes in a community assume an equally depreciated condition. Under such conditions, some of the owners will become disinterested and decay will go on at a much greater rate.



URGES 60 to 90 DAY EMBARGO on LUXURIES!

THE whole building construction industry seems to have become aroused at last to the great menace presented in the existing car shortage situation.

That the lack of transportation equipment is one of the most, if not *the* most serious problem which the clay products manufacturing industry is facing, was pointed out in the February 10 issue of *Brick and Clay Record*. In that issue the situation as it exists was set forth in vivid details. An inquiry was made into the reasons for the present condition and a remedy was suggested. The immediate purchase of at least two hundred thousand freight cars was urged, in addition to the necessary locomotives to take care of current needs for more motive power. The matter of repairing bad order cars was also touched upon.

The question of an embargo on certain classes of non-essential commodities and the giving of preferential service to building materials, was also covered in the February 10 issue, in connection with the car shortage situation. At that time we were not very enthusiastic over the idea of an embargo on some freight and preference for others. "It has been pointed out," read the editorial in the February 10 issue, "that a preference on one class of goods soon produces demoralization in the movement of all classes which makes matters much worse than the temporary shortage in one line."

Since that time, however, conditions have become very much worse. With the spring building season about to open, manufacturers of material are unable to move stocks accumulated during the winter months. These stocks must get into the hands of the dealers and consumers if Amer-

ica's program for the building of one million homes, to say nothing of office buildings, factories, hotels, and so forth, which are badly needed, is to go ahead.

Harry A. Brocus, of the Buffalo (N. Y.) Builders Supply Co., has looked the situation squarely in the face, has seen the danger with which it is fraught and writes as follows:

"The editorial in your issue of February 10, concerning 'The Car Shortage Spectre,' interests me very much as it undoubtedly interests every dealer in, as well as producer of, builders' supplies.

"You have suggested the same old remedy that everybody else is talking about; namely, build more cars and locomotives. It seems to me that if we have to wait until new equipment is promised, we might as well go out of business now, rather than hang on and suffer for several months to come.

"Without doubt, one of the principal causes of the railroads' failure to take care of the requirements of the building industry, is the shortage of motive power to move loaded as well as empty cars. *I am very sure that, if luxuries such as automobiles, furniture and other items of class freight were embargoed for from sixty to ninety days, the railroads would then have an opportunity to clear their rails which are, undoubtedly, terribly cluttered at the present time, and the building industry would get some relief.*

"Financial experts, industrial statisticians and most of the great banking institutions in the United States are uttering words of warning against the continual extravagance of the people in this country. The men who are putting forward this warning evidently know what they are talking

about, and it is quite certain that if the brakes are not clamped down pretty tight, something disagreeable is going to happen to our country in the way of a financial collapse.

"Food, raiment and shelter are the three prime requirements of the human race. It seems to me that the items making up these three requirements should come pretty near having the right-of-way on the railroads. It seems, however, that every time anything happens, the government very promptly curtails the shipment of building supplies which, of course, increases the cost of home building and certainly slows down the building industry. The placing of an embargo on luxuries, as I have previously mentioned, would also assist toward curtailing extravagant expenditures referred to above.

"I urge that you take this matter up with every association you are in touch with and see if the producers of building materials cannot combine their efforts and bring enough pressure to bear to get their products moved to destination. At the present time every association is pulling for its own members which, of course, is resulting in next to nothing, but if the entire building material industry makes a combined effort, it will bring to bear pressure from at least one-fourth of the business world of the entire United States, and would certainly hasten some welcome relief."

These facts are laid before clay products manufacturers of America and their associations for whatever action is deemed wise. There is certainly nothing to be gained by delay. Something should be done forthwith.

As a starter, the National Builders Supply Association, an organization of building supply dealers, has adopted the following resolution:

"WHEREAS, the shortage of dwelling places is seriously

affecting the welfare of the people, and is creating crowded and unsanitary conditions, and

"WHEREAS, this shortage is also acting as a brake on the welfare and prosperity of the nation by preventing the expansion of industries that are held in leash because of their inability to provide housing accommodations for their employes, and

"WHEREAS, this shortage of dwelling places cannot be overcome unless increased facilities for the transportation of building material are afforded, and

"WHEREAS, it is a matter of record that the railways of the nation have not facilities to care for the transportation of all freight offered them for transportation, therefore be it

"RESOLVED, by the National Builders' Supply Association, thru its Board of Directors, representing the shippers and users of over fifty per cent. of the normal tonnage hauled by the nation's railways, that the railways of the nation and their legal regulating bodies be urged and requested to give preference to the hauling of construction materials intended for use in the building of dwelling places, and that until such time as the demand for dwelling places is more nearly satisfied a limited embargo shall be placed upon the transporting of all luxuries and luxurious necessities, and be it further resolved that a copy of this resolution be sent forthwith to

The Interstate Commerce Commission,
American Railway Executives Board,
Chamber of Commerce of the United States,
Federation of Construction Industries,

and all other similar organizations."



MANY PRACTICAL MEN FIND CERAMIC SHORT COURSE INTERESTING *and* VALUABLE

WHEN A MAN ATTENDS the ceramic short course given at the University of Illinois for three different years, it is quite evident that this in itself speaks well for the course, without going into any further words.

This year's course, which was held at the Urbana campus, March 1 to 13, was the most successful course in point of attendance, that has been given for some years. Forty men representing firms manufacturing structural ware, pottery, glass and refractories, attended the lectures. These forty men represented twelve different states.

It was the opinion of several of the short course students that more men should take advantage of this splendid opportunity to broaden their knowledge of the technical subjects which enter into the conduct of their business. Many plants are idle during the winter months and more superintendents and managers are in a position to take this course than are doing so. There was not a student who attended who did not feel that he was being amply repaid for the time and expense he contributed.

NOTED MEN OF INDUSTRY ADDRESS STUDENTS

In addition to the lectures given by members of the university staff, the following lecturers from outside sources contributed largely toward making the course a successful one: A. V. Bleining, of the United States Bureau of Mines, Washington, D. C., and E. W. Tillotson, of the Mellon Institute of Industrial Research, Pittsburgh, Pa.

In his address of welcome to the short course students, C. R. Richards, dean of the College of Engineering, expressed

his interest and surprise in the fact that only thirteen or fourteen out of the total registration were from the state of Illinois. This in a way emphasized the fame of the department of ceramic engineering thruout the country and showed that it was serving a need apparently felt.

The Department of Ceramic Engineering, he stated, is an excellent illustration of what the university is doing for the state. The clayworkers' association of the state felt the need of a department of ceramics, hence, this branch of the engineering school was organized thru the direct interest of the people concerned rather than by the university itself. Mr. Richards also called attention to the engineering experiment station which is an organization in the college for carrying on research. Many books and pamphlets have been published recently describing the experimental results obtained. Cooperative work is being carried on to assist associations and corporations not able to do such work themselves because of their lack of laboratories and other facilities.

At the present time there are three or four of such investigations going on which include experimental work on chilled car wheels; investigation of heat distribution from warm air furnaces; and recently a \$30,000 endowment was made for studying the fatigue phenomena of metals. The opportunity for such cooperative research in ceramic lines was mentioned.

Mr. Richards also called attention to the difficulties educational institutions are having in maintaining their instruction staff. The incomes of the instructors have remained station-

ary for the past eight years and because of the fact that they are insufficient to maintain the usual standard of living, besides the fact that industry is offering excellent inducements for these instructors to leave the university, it is becoming very difficult to maintain a staff.

In order to prevent the exodus of good instructors from the university into industrial pursuits, Mr. Richards urged that the people aid in bringing about the necessary legislation that will bring relief.

COURSE ON GLAZES SUBSTITUTED FOR ENAMELS

Because Homer F. Staley, of the Bureau of Standards, Washington, D. C., was not able to be present owing to illness, to deliver his lectures, the periods that were scheduled for the subject of enamels were omitted and a course on glazes was given by Professor C. W. Parmelee instead. Except for the above changes the lectures followed in the order as outlined in the January 27 issue of *Brick and Clay Record*.

On Wednesday evening, March 10, a smoker was given at a large fraternity house mainly for the purpose of promoting a spirit of good fellowship and giving the students an opportunity to become better acquainted with each other. The following men were registered at the course: Elmer Leach, Jr., Oshkosh, Wis.; W. H. Herbert, mechanical superintendent, W. G. Bush & Co., Nashville, Tenn.; Harry S. Vincent, president, Vincent Clay Products Co., Fort Dodge, Iowa; R. F. Lindsay, factory superintendent, Denver Fire Clay Co., Denver, Colo.; Lewis E. Hersh, New Jersey Zinc Co., Palmerton, Pa.; J. W. Lanning, superintendent, Klose Brick & Tile Co., Lincoln, Nebr.; Neil Casey, Colfax (Ind.) Drain Tile Co.; Chester H. Jones, "Chemical and Metallurgical Engineering," Chicago; S. C. Potter, superintendent brick yard, State Penitentiary, Lansing, Kans.; Theo. W. Hilsmeir, Huntingburg (Ind.) Pressed Brick Co.; O. S. Salem, assistant superintendent, Jewettville (N. Y.) Clay Products Co.; M. L. Postle, Wapakoneta, Ohio; Harry Eldrick, manager, Knox Clay Products Co., Knoxville, Iowa; A. M. Reece, Poston Brick Co., Springfield, Ill.; O. A. Harker, Jr., Dixie Brick & Tile Co., Puryear, Tenn.; Ernest A. Bickel, assistant to manager, Pottsville (Iowa) Clay Products Co.; S. W. Gibson, superintendent, Independence (Kas.) Paving Brick Co.; Chester Guthrie, foreman pottery department, Eagle-Picher Lead Co., Hillsboro, Ill.; W. G. Jackson, Taylor, Smith & Taylor Co., Potters, East Liverpool, Ohio; Cecil C. Camp, superintendent, C. C. Skelton, Texas City Tile Plant, Texas City, Ill.; Erwin H. Koch, 503 George Street, Alton, Ill.; Kenneth H. Merry, Merry Bros. Brick Manufacturing Co., August, Ga.; Frank Neumann, assistant superintendent, Streator (Ill.) Brick Co.; D. P. Ogden, Streator (Ill.) Brick Co.; I. R. Shue, chemical department, Gardner Machinery Co., Beloit, Wis.; Wilbur R. Smith, Illinois Glass Co., Alton, Ill.; R. A. Harkrader, assistant naval inspector, United States Navy Department; Harry A. McNichol, president, Potters Cooperative Co., East Liverpool, Ohio; W. M. Coates, W. W. Coates Co., Kansas City, Mo., and F. L. Steinhoff, *Brick and Clay Record*, Chicago.



A Plan for Americanization

In line with the thoughts of Americanization expressed in an editorial appearing in the March 9 issue of *Brick and Clay Record*, the following plan is of considerable interest to clay plant manufacturers. A service has been inaugurated as the Elliott Industrial Service by the Elliott Service Co., 141 W. Thirty-sixth Street, New York City, that has as its object the betterment of industrial relations, the education of workers in ethics and economics, the stimulation of interest in production, the reduction of turnover, the increased effectiveness of safety, publicity and the maintenance of all that is embraced by "morale."

News photographs are employed as a magnet for attracting attention and as a vehicle for education. A large display frame is furnished to subscribers and these are posted where all the workers can see them daily. Each frame carries at the top a card bearing the subscriber's name. Every working day a new photograph is put into the frame—some striking views of events, people or places featured in the day's news. Each picture is accompanied by a printed description.

In a space provided at the bottom of the frame appears an educational message for which the news photographs are really the vehicle. Every other day a new message is supplied for this space—strong simply-worded statements.

A large number of firms subscribe to this service and they feel that it is impossible for any worker who studies the pictures to overlook or fail to read the personal messages framed with them. There, over the signature of a celebrity or popular idol, with his portrait, is a thirty to forty word simply-phrased statement of some big truth. By reading such precepts week after week, month after month, an individual or group of men can hardly help but be influenced for good.



An Increased Production Convention

Seeing in increased production a means of restoring normal business and price conditions, the Chamber of Commerce of the United States, it was announced recently, will make its eighth annual meeting, to be held at Atlantic City, April 27 to 29, an "Increased Production Convention."

This subject is considered of such importance that in working out a program for the meeting every topic will be considered from this viewpoint. Lack of production, it is pointed out, is one of the chief causes of the high cost of living, which cannot be reduced until more goods are put on the market. The present is a seller's and not a buyer's market. Prices have been forced up by competitive bidding. This in turn has made necessary unusual wage increases, with a still further rise in manufacturing and production costs.

Even with the exchange situation as it is, with its threatened curtailment of exports to Europe, manufacturers generally believe it will be a long time before production in the United States catches up with the demand for goods. In the meantime producers are faced with the task not only of meeting current demands, but with making up in some directions production lost as a result of the diversion of manufactured goods for war purposes.

The general subject of increased production has been divided up in the program for the convention into sub-subjects. The first to be taken up will be the government in relation to production. Under this heading will be considered anti-trust legislation and taxation. Business of every kind is keenly interested at this time in the situation with respect to taxation, especially in the subject of excess profits taxes, against which there has been general complaint.

The second general subject to be taken up will be transportation in relation to production. This will include both land and water transportation. One of the chief causes of lack of production just now, it has been pointed out, is the general shortage of railroad equipment. One authority estimates that the country is short at least 200,000 box cars and all lines of industry have felt the shortage.

International finance and its relation to world production has a prominent place on the program. This subject will be discussed both from the financier's and the business man's point of view. The Chamber has just expressed its willingness to name delegates to an international financial confer-

ence under limitations outlined by the Treasury Department. Lack of means of financing European industries is a decided factor in retarding production in many of the countries of Europe.

One general session of the convention will be given over to agriculture in relation to production. Here will be presented for discussion the part of the government, the farmer and the business man in agriculture. Secretary of Agriculture Meredith will speak for the government.

Another important general subject will be the relation of labor to production. This will be approached from both sides, the employee's viewpoint being presented by a representative of the American Federation of Labor and the employer's by a business man.

Besides the general sessions there will be held group meetings, divided as along the great divisions of industry. In these meetings the subject of increased production, as in the general meetings, will be the main topic discussed.

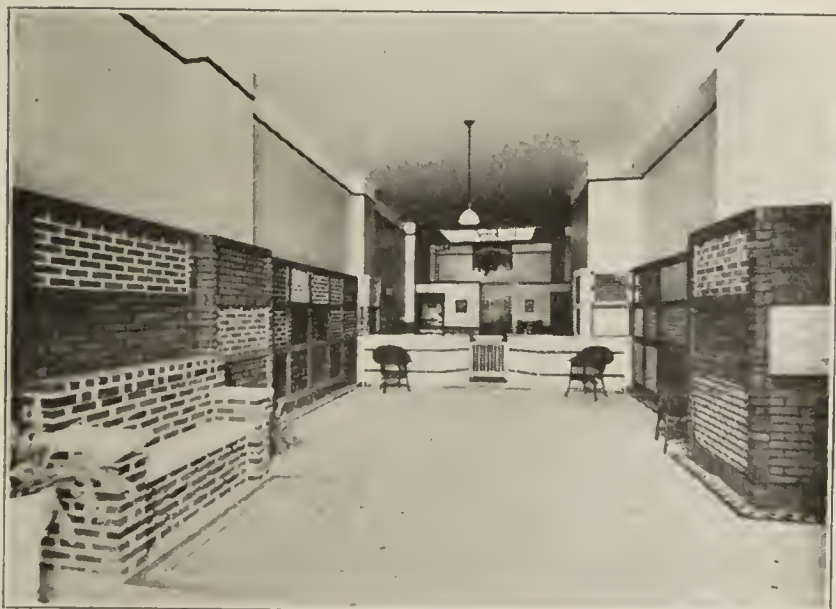
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Moves Sales Offices to Ground Floor

The accompanying two views show part of the new sales offices of the Hydraulic-Press Brick Co., at Omaha, Nebr. The large variety of different lines of brick which are handled by this company are ably displayed in a great number of panels located along the walls of the office in a manner that makes it comparatively simple for a client to make a satisfactory choice.

The Omaha sales offices, which are in charge of H. W. Bubb, were recently removed from the thirteenth floor of the Woodmen of the World Building to a ground floor location in the same structure. By making this change a distinct advantage has been gained in that a silent appeal has been made to passers by that is very effective. Everyone appreciates how impressive panel displays of face brick are, and these are used to good advantage by placing the office on a ground floor location, where pedestrians can be attracted by the artistic arrangement of brick in the interior. It is interesting to know also that a special window display of face brick is prepared, which is changed frequently.

The value of the new location is best expressed by quoting from Mr. Bubb's letter in which he states, "We recently removed from the thirteenth floor of this new location and have found it to be a profitable move, as it puts us on the ground floor with the trade and gives us a very attractive display window, which we change often with an attractive display of face brick, etc., which attracts a great deal of attention from the passers by of this building."



Interior View of New Ground Floor Office and Display Room of Omaha Branch of Hydraulic-Press Brick Co.

February Factory Employment in N. Y. State

For the first time in four months there appears a decline in the amount of employment in New York State factories. The number of workers employed in February shows a decrease of slightly more than one per cent. from the previous month, compared with an increase of one per cent. in January and of three per cent. both in December and November. The above fact is brought out in the preliminary analysis of 1,538 February reports received from manufacturers of the state by the Bureau of Statistics of the New York State Industrial Commission.

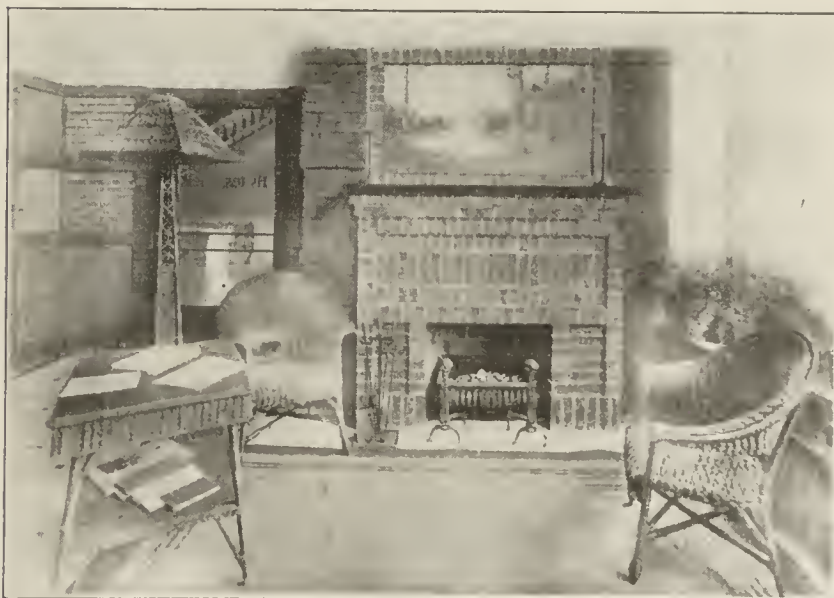
Several factors contributed to produce a decrease in employment in February. Chief among these is the usual seasonal reduction common to many industries during this month of the year. Another important factor is the tie-up of transportation during the first part of the month on account of snow storms. Many factories were compelled to resort to a reduction in the operating forces for the lack of raw materials and of fuel which, owing to poor traffic conditions, failed to reach their points of destination. Lastly, numerous plants report decreases in operations due to a great amount of sickness among employees during the "flu" epidemic.

Decreases in cement, plaster and brick appear among the chief decreases for February. A reduction of 11 per cent. in the number of workers in the cement and plaster industry is due to seasonal conditions, lack of fuel and a strike in one of the plants. A further seasonal decrease of 4 per cent. is reported by brick plants.

* * *

Permit Valuations Six Times Greater

The volume of construction work at Philadelphia, Pa., is showing an encouraging increase from week to week. Despite the adverse weather conditions during the past few weeks, the building movement is getting in good swing for a busy spring season, and manufacturers, dealers and others in the industry view the outlook in an encouraging manner. That the city is going forward in the right direction is evidenced by a comparison of construction figures for the first two months of the present year, as compared with the corresponding period of 1919. During this time in 1920, the estimated valuation of work, shown by the plans filed, is \$10,471,480, as against \$1,825,370 for the same months of a year ago; this is an increase of almost six times in amounts, and illustrates the substantial progress being made. Brick is being used in large quantities for apartments and dwellings, not to mention extensive factory work, and is easily in the



Window Display of Hydraulic-Press Brick Co., Which Attracts Attention of a Good Many Passers By.

forefront of all other basic construction materials. Efforts will be made to relieve the housing situation in this city during the coming months; thousands of homes are needed and architects and builders are exceptionally busy with plans for these operations. Industrial work as being developed is of no mean status; thousands and thousands of dollars will be invested for new plants and additions to present factories. Among the recent enterprises of this latter character are two two-story additions to the plant of the Brown Instrument Co., to cost about \$57,000.



Greatest Period of Prosperity in History

That the cost of building for the next four or five years will not be lowered, but, in all probabilities will be materially increased, was the consensus of opinion of members of the Pittsburgh Builders' Exchange at their monthly dinner held in the Pittsburgh Chamber of Commerce building on March 13. David T. Riddle, president of the exchange, presided, and a round-table discussion of the situation was had by representatives of several branches of the building trades.

Robert K. Cochrane, Jr., of the Hay Walker Brick Co. said that the brick situation was the same as that of lime. C. B. Fawcett of the Johns Manville Co. talked along the same line. All the brick and tile men present agreed that their industries were in for the greatest period of prosperity in history.



Imports of Fire Brick Into Argentina

In the quinquennium immediately preceding the war Argentina imported 25,085,000 fire brick, of which Great Britain supplied 21,903,000, Germany 1,430,000, Belgium 735,000, United States 720,000, and France 220,000. The importations for the war years have been considerably less, of course, amounting in 1917 to 1,793,000 brick. According to Consul General W. Henry Robertson, of Buenos Aires, American exporters find it difficult to compete in this trade, largely owing to the great amount of British capital invested in railways and industrial companies in Argentina.



Pittsburgh Demand for Clay Products Is More Than Double Available Supply

In spite of the fact that Pittsburgh's house-building program has been interrupted by the high prices being demanded for general materials, there has hardly before been a time in which so much interest has been shown in brick and tile of all varieties as at present. It is true that much of this is emanating from the outlying districts of Pittsburgh, where storage houses, terra cotta plant buildings and other sorts of structures are going up.

But those who are able to get their requirements in anything save backup tiles are fortunate, indeed, for there is now the most pronounced dearth in the better grades of brick and tile that Pittsburgh builders have known in many a day. Demand for everything in the brick and tile lines is far beyond the supply. Everybody interested in building, it seems, is seeking common brick. A representative of the T. O. O'Leary Co. said that inquiries for common brick in the Pittsburgh district alone exceeded 3,000,000.

In spite of the unusually strong demand, the price remains firm at \$17 a thousand, at the plant. There are brick men, however, who do not believe this price will hold out long; they look for a substantial increase soon. Tile, also, they predict, is in for a substantial increase in price. Like everything else, it is simply a question of demand and sup-

ply—and the demand for brick and tile now is more than double the available supply.

Brick men admit that they do not know what will be done for material when the building campaign in Pittsburgh is resumed. As it is now, building and general construction work in which brick and tile are being extensively used, is unusually active. There is almost a pronounced scarcity of lumber of all grades, and, as one in the trade said recently, "unless the people can devise a way of building their houses out of mud, I don't know what they are going to do, for there is neither brick nor lumber to go around."



To Make Full Line of Grinding Wheels

A new grinding wheel company has been organized under the laws of Maryland. The name of the new concern is Precision Grinding Wheel Co. The amount of capital authorized is \$525,000. This company will devote its entire energies to the manufacture of grinding wheels. It will make a full line of grinding wheels of the standard types of abrasives in general use, and by all of the standard processes.

A. S. Vane, president and general manager of the new company has had broad experience in the grinding wheel business and has associated with him H. A. Plusch, who is secretary and factory manager.

A new and entirely modern plant is now under construction at Holmsburg Junction, Pa., a suburb of Philadelphia. The temporary office of the new company is in the Heed Building, Philadelphia. It is expected that the first unit of the plant will be in operation by July 1, at which time the main office will be transferred to the plant.

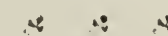


Leases Wharf for Brick Unloading

Following the precedent of former years, the Cincinnati (Ohio) Clay Products Co. has leased a wharf at the foot of Race Street at which to unload brick brought down the river on barges from its plant at Blairville. The firm is required to pay a rental of \$720 for the use of the wharf during the open months, the only time its up-the-river plant can be operated, as it depends on the sun and the air to dry the brick.

Jno. M. Stoner, president, said that the company has one boat load of 125,000 brick now at the plant ready for shipment.

Answering the accusation made by bricklaying contractors that the manufacturers are reducing their production in order to keep prices at their present inflated figure, Mr. Stoner said that brick were being turned out at the plants as rapidly as the limited number of men obtainable can make them. He said that the labor shortage at the plants was even more serious than the apparent shortage of bricklayers.



Advertising to Promote Use of Brick

A number of leading brick manufacturers at Philadelphia, Pa., are cooperating in a movement to promote the use of brick for house construction thruout this and neighboring districts. The slogan, "Build with Brick—It Lasts Forever," is being used in connection with the campaign, and some interesting references to show the utility and permanency of brick are being made. Among these is the William Penn house in Fairmount Park, built in 1682 of common brick; this was the first brick house in Philadelphia, and stands today as a monument to the everlasting nature of well-built

brick structure. The companies engaging in this work include the North Philadelphia Brick Works, Keystone Brick Co., Joseph T. Byrne Estate, John H. Earley, Frankford Brick Works, F. Seitter's Sons, and H. M. & C. B. Siner.



Bankrupt Concerns Must Pay Franchise Tax

In Federal Court, Judge Sater has ordered that bankrupt companies must pay franchise taxes until the companies are dissolved. The action came up in the case of the Junction City (Ohio) Clay Products Co., which has been in the hands of receivers since 1915. The plant had been leased to the state and later was purchased and the company dissolved. The purchase price of the plant was approximately \$60,000. The receivers contended that by leasing the plant to the state they were freed from paying the franchise tax.



Representatives of Chicago contractors and of Chicago Building Trades Council are considering a demand from the men for wage advance to \$1.25 per hour; present wage of \$1 per hour was adopted following a strike of carpenters last year. The bricklayers have just been granted a wage of \$1.25 an hour.

Brick Demand in Mexico

Brick is coming more and more into use for the construction of buildings and other works by companies operating in the Mexican oil fields. It has been found that in the tropical climate, with its sea-laden atmosphere of the Tampico section, brick buildings last much longer than frame structures. Among the new brick buildings now under construction is a large one-story warehouse for the International Oil Co., which is to replace the wooden building that has been occupied for the purpose for the last year. The brick supply here comes chiefly from the plant of the Monterey Brick Manufacturing Co. at Monterey. This industry was established about twenty-five years ago by Col. J. A. Robertson, one of the pioneer American developers of Monterey. In the pre-revolutionary days he supplied most of Mexico with building brick. He also made large shipments to Cuba and Texas. The plant is now owned and operated by his son, Ayers Robertson.



Under provision of a bill introduced into New York State Assembly, it is made a misdemeanor for an employer, during strikes and industrial disputes, to advertise publicly for employes without stating that a strike or dispute exists at the plant.



CURRENT PRICES *of* COMMON BUILDING BRICK *from* SEVENTY-TWO CITIES

INASMUCH AS considerable interest has been manifested recently in common brick prices thruout the country, it has been deemed wise to make a compilation of current quotations for the benefit of our readers. The prices which follow are reported as *delivered on the job*. They are, therefore, in the very nature of the case, higher than the plant price. This should be taken into consideration in examining them.

If for any reason these prices do not seem to be in line

with conditions as they exist in the towns enumerated, and furthermore, if you have any information that would tend to prove these prices to be incorrect the editors of *Brick and Clay Record* will be very glad to hear from you. These are, however, quotations which are being given at the present time by agencies selling brick in the towns mentioned.

The foot notes are explained at the end of the following tabulation:

COMMON BRICK	Per M				
Boston, Mass.	\$29.25	Wilmington, Del.	23.00	Fort Wayne, Ind.	20.00
Providence, R. I.	32.00*	Washington, D. C.	24.50	Indianapolis, Ind.	22.00
Hartford, Conn.	30.00*	Richmond, Va.	25.00	South Bend, Ind.	21.00
New Haven, Conn.	35.00	Huntington, W. Va.	20.00	Terra Haute, Ind.	19.00
New York City	30.45	Fairmont, W. Va.	24.00	Bloomington, Ill.	22.00
Albany, N. Y.	25.00	Wheeling, W. Va.	24.00	Chicago, Ill.	14.00
Syracuse, N. Y.	25.00	Atlanta, Ga.	18.00	Moline, Ill.	22.00
Oswego, N. Y.	30.00	Miami, Fla.	36.00*	Green Bay, Wis.	24.00
Binghamton, N. Y.	25.00	Tampa, Fla.	30.00	Milwaukee, Wis.	15.50
Elmira, N. Y.	30.00	Frankfort, Ky.	24.00	Minneapolis, Minn.	22.00†
Rochester, N. Y.	19.50	Louisville, Ky.	20.00	St. Paul, Minn.	22.00
Buffalo, N. Y.	26.00	Memphis, Tenn.	23.00	Davenport, Iowa	23.50
Jamestown, N. Y.	33.00	Nashville, Tenn.	19.50	Des Moines, Iowa	31.00
Allentown, Pa.	16.00	Birmingham, Ala.	25.00	Sioux City, Iowa	18.00
Eric, Pa.	22.00	New Orleans, La.	21.00*	St. Louis, Mo.	20.00
Philadelphia, Pa.	24.00	El Paso, Tex.	18.00	Lincoln, Neb.	19.00
Scranton, Pa.	25.00	Houston, Tex.	25.00*	Denver, Colo.	17.00
Newark, N. J.	30.50	Dallas, Tex.	32.50	Los Angeles, Cal.	12.50
Paterson, N. J.	30.00	Topeka, Kans.	20.00	San Diego, Cal.	17.00‡
Trenton, N. J.	25.00	Little Rock, Ark.	18.00	San Francisco, Cal.	17.50
		Oklahoma City, Okla.	22.50	Portland, Ore.	20.00
		Cincinnati, Ohio	21.00	Seattle, Wash.	17.50
		Cleveland, Ohio	22.00	Winnipeg, Man.	20.00
		Columbus, Ohio	28.00¶	Toronto, Ont.	18.00
		Detroit, Mich.	22.00	Halifax, N. S.	19.50
		Evansville, Ind.	15.25	Quebec, Que.	17.00

*Hartford, sold by mfrs. only; minimum price. Providence, price at yard, \$28 to \$35.

†Mrs. price. Houston, another dealer quotes \$22.

‡Also quoted \$30 Columbus.

¶Also quoted \$18 at Minneapolis.

‡Carlot rate, San Diego.

To make good belting— give better service.

Your plant's investment in belting is made for ONE purpose—**SERVICE.**

If the one who joins that belting—you, yourself, maybe—uses methods which are destructive or inefficient, the Service is lessened and the belt's life shortened; and YOU lose.

For methods of joining which punch out, cut, or weaken the belt fibre, cause the belt to fail; Production stops and is held up until the belt joint is repaired. And Production is the only thing that makes money, that pays wages, that makes for better conditions.

Today, the more prominent belting manufacturers, realizing that their product and reputation is at stake, recommend Crescent Belt Fasteners and furnish them because—

Crescent Belt Fasteners make Good Belts Give Better Service.

They insure longer belt life.

They do not cut, punch, tear or weaken the belt.

They save time, labor and belting.

They distribute the strains evenly and equally.

They sustain the belt's full strength.

They insure efficient power transmission.

They maintain Continuous Production.

They give the beltman the chance to "Make Good."

If you still cling to the idea that belts can't be joined to sustain the strength and the service that's built into them, it's time to 'rouse yourself. Write for the booklet "SERVICE DATA." Use the coupon opposite.

CRESCENT BELT FASTENERS "For Continuous Production"

Crescent Belt Fasteners are adapted to every kind and make of belting of every length, width and thickness. They distribute the strain evenly across the entire width of the belt—form a permanent joint for the life of the belt.

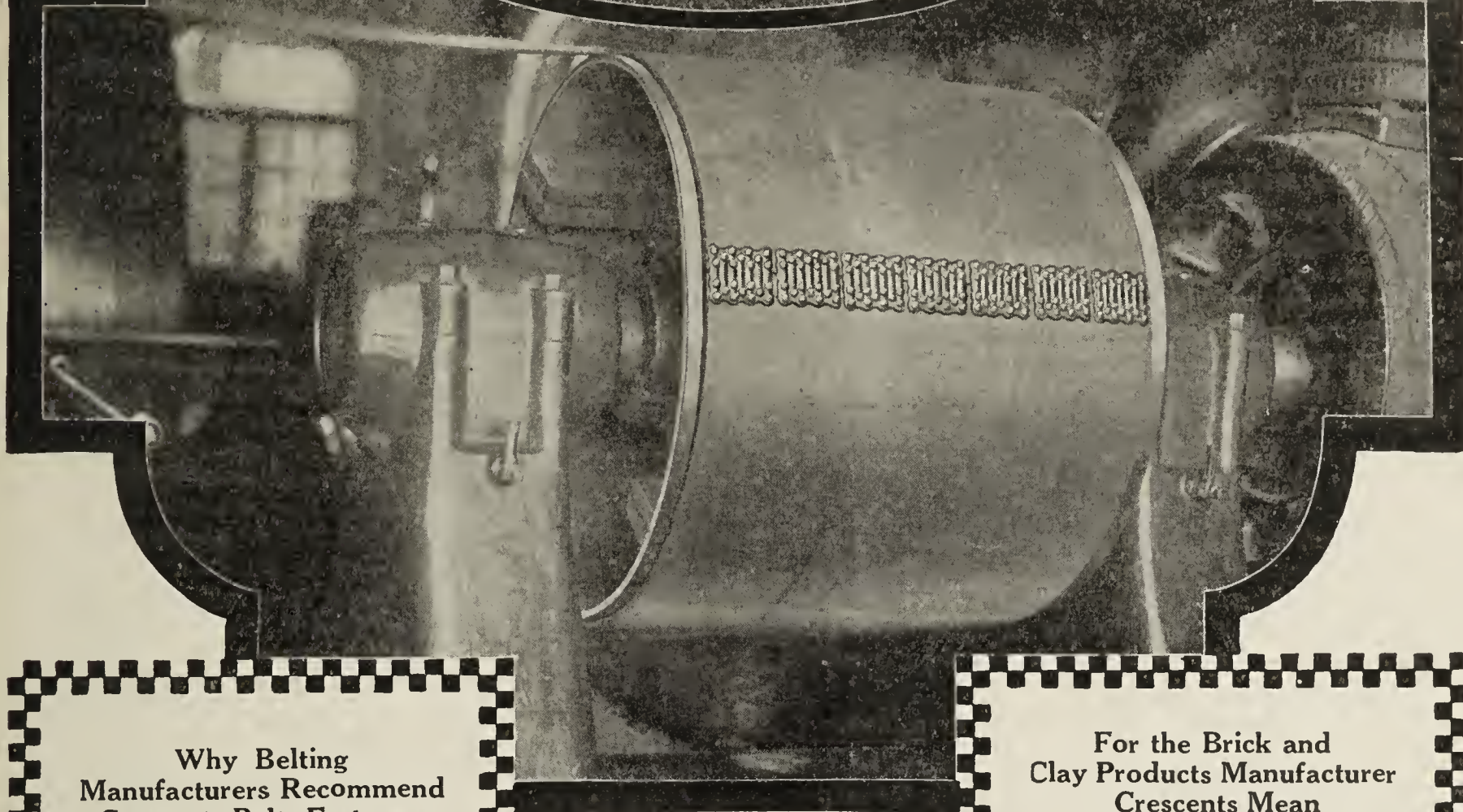


Crescents permit easy, quick adjustment for take up of stretch—do not injure belt fibre, require no punching—"Hold without holes." They are the time-proven belt joining device. The product of engineering science applied to the problem of efficient belt use and low-cost maintenance.

CRESCENT BELT FASTENER COMPANY 381 FOURTH AVENUE NEW YORK

Branches Birmingham England Toronto Canada Distributors Throughout the World

How the clinch of Crescent Rivets sinks into the belt so no metal touches the pulleys. An endless belt for all practical purposes—and better in many ways.



Why Belting Manufacturers Recommend Crescent Belt Fasteners

Satisfactory service insured from the very start. No attention required. No unexpected "maintenance" charges. Customers pleased and satisfied. Belts get full credit for quality built into them. Reorders come as a matter of course. Spread of goodwill increases sales. Sales cost lessened. And a business where Crescents pay their own way.

Illustration above shows Crescent joint on 28 inch by 8 ply main drive belt, operating over 33" and 144" pulleys at 4750 F. P. M. Crescents are made for every belt condition from high speed light work on small pulleys to Extremely Heavy Duty. Crescents are the 'All Round Fastener.'

For the Brick and Clay Products Manufacturer Crescents Mean

No lost Production from breaking belt joints. Continuous transmission of all power. No stoppages, delays, wasted labor or time. No expense for attention, or maintenance. Perfect Safety. No making over again joints that need be made but once. No waste when shortening, disconnecting and rejoining. Belts last longer — Give Better Service. Your belting money goes farther.

wake up!

Sign and mail that Coupon TODAY!

Crescent Belt Fastener Co.,
381 Fourth Ave., New York, U. S. A.

Please send me your booklet and explain how Crescent Belt Fasteners make Good Belts Give Better Service.

Name:

Firm Name:

Street Address:

City and State:

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CANADIAN DRAINAGE *and* CLAY ASSOCIATIONS MEET JOINTLY

Many Interesting Topics Discussed at Annual Sessions of Western Ontario Clayworkers' and Ontario Farm Drainage Associations

IN A THREE-DAY JOINT MEETING, from February 24 to 26 inclusive, the Western Ontario Clayworkers' Association held its twenty-third and the Ontario Farm Drainage Association its third annual convention, in the rooms of the Builders' Exchange, London, Ont. Delegates from the United States and Canada were present and many matters of importance were discussed at the different sessions.

The address of welcome was given at the morning session of the first day, by L. A. Ross, president of the London Builders' Exchange. S. R. Walsh gave an outline of the program prepared for the entertainment of the delegates of both associations, and William McCredie, oldest member of the clayworkers' association, gave the reply. In a brief manner he told of the development of the industry, and touched lightly on its history from early Egyptian times until the present.

The chief speaker of the morning was C. S. Parker, president of the Association. He told of the good work the organization was doing in the interest of the industry, and mentioned many of the difficulties the executive had been called upon to solve, chief among which was the gas question.

SUCCEEDS IN GETTING RELIEF IN GAS SITUATION

In his capacity as chairman of the gas committee, he reported the great difficulty they had had in securing the privilege of using natural gas for fuel in the manufacturing of clay products. In 1918 the gas situation had come under government control and, in an effort to conserve the supply for domestic purposes, they had said that none would be available for commercial use. It was pointed out by the committee that the clay products industry was an important branch of activity and, therefore, entitled to consideration. After considerable negotiation, a limited supply of gas was allowed the clayworkers upon taking out special licenses. These licenses were granted on a restricted basis, but Mr. Parker thought the matter had been adjusted to the satisfaction of all members of the association.

The speaker also stated that as the country is undergoing great changes, it behooved all members of the craft to make every effort to protect their interests and keep ahead of the times. He strongly urged a close study of all new methods, both in fuel and labor saving, and regretted that those engaged in the industry had been slow in taking advantage of improvements in the past. It was his earnest desire that every clayworker should become a member of the association and give it his wide-awake support.

SPEAKS ON APPRENTICE PROBLEM

At the afternoon session, E. R. Dennis, of the Dennis Wire & Iron Co., London, spoke on "The Value of Apprenticeship." He showed that some steps must be taken to alleviate the growing shortage of skilled workmen in our modern

business enterprises. He pointed out that the skilled workmen of today were all men of middle age or older.

"The lack of skilled men among the younger workers," said Mr. Dennis, "presents the great problem. It has been brought about to a great extent by the abolition of the old system of apprenticeship."

He stated that there was a total misconception of the situation in the idea that the technical schools would replace the old system; they were merely institutions where our boys learned the fundamentals absolutely essential to those intending to be efficiently engaged in the industries. "The skilled workers," he continued, "must be trained by industry, in that industry, and under practical business conditions."

Mr. Dennis outlined that new conditions must be met with new methods, as the old seven-year term of apprenticeship was out of the question. The boy should have a public school education up to fourteen years; after that a two-year training in a technical school, either part or full time, for his chosen calling. He must be protected from exploitation by his employer, as was sometimes done in the past. Both parties must enter into an equitable contract and the boy make up his mind to stay with an employer at least two years.

In conclusion, Mr. Dennis stated that employers should offer apprentices something real, and something that will appeal to the best that is in each of them; that a well supervised training department for beginners should be a feature in the larger industries, and a competent man employed to train and encourage the apprentice.

SUGGESTS BUYING COAL IN CLUB LOTS

Capt. W. H. Carling of the Century Coal Co., Montreal, spoke on the coal situation and its relation to the clay products manufacturing companies. He said that there was a lack of coal production, and the price of coal did not look promising for the future—until fall at least. He suggested that to get better prices, the clayworkers should buy coal in club lots, and place their orders two months in advance.

The use of the pyrometer in clay products manufacturing plants was the subject of technical addresses given by M. D. Hastings of the A. H. Winter Joyner Co., Toronto, representing the Bristol Co. of Waterbury, Conn., and by W. Printz of the Brown Instrument Co., Philadelphia. Mention was made of the accurate measurements of temperatures that could be secured with this instrument.

Nearly one-half of the amount of coal could be saved by the use of the pyrometer, and the time of burning shortened by one-half. By making use of the instrument it is possible to obtain a much better quality of brick; it aids in the prevention of blistering and insures better wearing qualities. It was stated that the pyrometer is coming into general use, and that the demand is greater than the supply. Both speak-

ers went thoroly into the subject, giving the details of the construction and operation of the instrument and its value to the clayworker.

SPEAKS ON CONTINUOUS TUNNEL KILN

W. H. Dunn, of the J. B. Owens Continuous Tunnel Kiln Co., Pittsburgh, spoke of the advantages gained thru the use of the continuous tunnel kiln. The system of building a fire in a tunnel, and moving the brick into the tunnel and around the fire was a vast improvement over the old method of piling the brick and building the fire around them. The loss due to improper burning was eliminated by this system and saved about 70 or 80 per cent. of the fuel required in the old way. Much labor was also saved, and the time required in firing was reduced one-half. A detailed technical description of the building and operation of the kiln was given by Mr. Dunn.

DRAINAGE MEN HOLD SEPARATE MEETING

At a separate meeting, the Ontario Farm Drainage Association Convention was formally opened by president S. W. Hyatt. He told of the work of the association and the necessity of forming local branches of the organization thruout the province.

A lengthy talk on the manufacturing, care and adjustment of surveying instruments was given by F. Armour of the Consolidated Optical Co., Toronto. Two instruments were used for demonstrating purposes and he explained the adjustment of the main bubble, vertical and horizontal cross-hairs and collimation. He said that any man who had grasped the fundamental principles could easily make his own adjustments without sending the instruments to the factory for that purpose.

At the end of the meeting a resolution committee composed of J. E. Jackson, R. Knister, M. Day and J. W. Sands was appointed to draft all resolutions drawn up by the convention.

A theater party composed of members from both associations completed the first day's program.

The morning session of the second day opened in a combined meeting of the two associations. H. H. Hallett, of Tilbury, and W. H. Dunn, of the J. B. Owens Continuous Tunnel Kiln Co., were the principal speakers. S. W. Walsh, president of the Farm Drainage Association, acted as chairman.

URGES PRODUCTION FOR INCREASED DEMAND

Mr. Hallett gave an address on "Production," and impressed on his hearers the necessity of increased efforts on the part of the members of the association to meet the tremendous demand for brick and tile in Western Ontario. He advocated continuous operation of the plants with a capacity output for every month of the year. This did not mean that quality need be sacrificed for the sake of production, as capacity meant the maximum amount of material it is possible to put thru the weakest unit of the plant each day, and the kilns and dryers being the units that have the smallest capacity, these units regulate the capacity.

"Do not keep machinery," he stated, "that does not pay a dividend, or a part that breaks twice in the same place." He pointed out that the prime importance of machinery lay in its type and quality; nothing but trouble could arise from poor machinery. Units of sufficient strength should replace all weak parts in the plant.

Mr. Hallett spoke of the importance of harmony among workmen. He advised against changing the men from one job to another as it tended toward making jacks-of-all-trades instead of experts. He also advised the keeping of a small staff of men for the building and repair work. Much money was often lost in shutting down a plant while outside help did work that a regular repair staff could do without interfering with the running of the plant.

Mr. Dunn gave a technical talk on the continuous tunnel kiln, going into details bearing on the construction and operation of the kilns and the advantages derived.

POINTS OUT NEED FOR DRAIN TILE

"The tiling industry is only in its infancy," declared F. L. Ferguson, B. S. A., of the Ontario Agricultural College, in his address at the afternoon session of the joint convention. He stated that one-third of the cleared land was in urgent need of draining in Old Ontario, and a vast portion of the clay belt in Northern Ontario would not yield its best until drained. The wet seasons of 1917 and 1918 had created the present great demand for tile, and it was to be regretted that the demand had not improved the quality of the tile. The makers did not have the time to cull them and, as a result, much poor tile went into the ground.

Wm. McCredie, of Lyons, spoke in the interest of ceramic technical schools where the young man in the industry might learn the technical part of the industry and be able to superintend any operation in the manufacture of brick or tile.

Previous to the war a committee had endeavored to induce the government to build a technical school for the purpose, but they had met with no success. A room, however, had been equipped in the new technical school at Toronto out of the funds of the association and the teaching of ceramic technicalities were to be taken up in it, but when the war broke out the place had been taken over for the manufacture of munitions.

The board of governors of the Toronto University had also been approached by the committee to have them include in their curriculum the art of ceramic manufacture. Tho they had met with some difficulty the committee were pleased to report progress.

Much discussion was brought about by the speech of Alfred Wehlann, of Cairo, who spoke on "Specification and Classification of Drain Tile." It was his belief that every maker should send samples of tile to a department recognized by the government, where the goods would be classified and thus have the farmer protected from purchasing poor tile. The opinion of many present was that a provincial inspector would insure good tile being manufactured.

The speaker also advocated thin-shelled tile. They might not stand as much rough usage, but he believed they were better for drainage purposes, and more economical.

SHOW MOTION PICTURES ON DITCH DIGGING

Motion pictures of ditch digging machinery in operation were shown and afforded an opportunity of comparing this method with the old and slower method of doing the work by hand.

In the evening the joint commission of delegates banqueted at the Tecumseh House, at which speeches were made by J. W. Freeborn, M. P. P., Police Magistrate A. H. M. Graydon, W. Printz, M. Maxwell of the Chatham Chamber of Commerce, and Wm. McCredie. Alderman O. E. Cunningham of London acted as toastmaster.

Mr. McCredie made the announcement that the association intended making efforts to induce the London Technical School to add a course in ceramics to its curriculum. He supplemented his announcement by reading a letter received from a committee which is investigating schools of this nature in the United States.

Mr. Maxwell and Magistrate Graydon spoke at some length on the problem of immigration. It was their opinion that the immigrant should be carefully looked after and taught to respect the laws of the country. "They must not break up the furniture" was the keynote of their speeches.

The aims and purposes of the U. F. O. government was the subject of J. W. Freeborn's speech. He stated that the new party was after class legislation and would drive it

from the country. He felt that, on the whole, the present members of the provincial parliament would show that they were broad-minded statesmen.

W. Printz and S. W. Hyatt responded to the toast "Our Guests," and Wm. McCredie to that of the Clayworkers' Association.

ELECTION OF OFFICERS

At the morning session of the last day of the convention, Wm. McCredie of Lyons, Ont., was elected president of the Western Ontario Clayworkers' Association. The other officers elected are: Alfred Wehlann, Cairo, first vice-president; H. H. Hallett, Tilbury, second vice-president; R. T. McDonauld, Bridgen, third vice-president, and G. E. Armstrong, Fletcher, secretary-treasurer.

A paper on fuel oil burning was read by Mr. Baldwin, of the Fess Oil Co., Toronto, in which he stated that oil valued at ten cents a gallon was equivalent to coal at \$12 a ton. It had many advantages and was much cleaner. He explained how this system of heat could be used to dry green ware and thus overcome the present difficulty of dryer units.

The Ontario Farm Drainage Association held a separate meeting in the morning. W. G. Walsh read a paper on the laying of tiles in different types of soils. He showed by statistics that drainage increased oat crops, sometimes by 20 per cent., barley 15, wheat 40, and corn 24 per cent.

R. Knister, of Comber, addressed the meeting on the operation and care of tile ditching machinery. J. W. Sands of

Chatham, gave a technical paper and illustrated talk on the setting of stakes and following of grades in building drains.

S. W. Wyatt of Mount Brydges, was elected president of the Ontario Farm Drainage Association at the final afternoon session on February 26. The other officers elected are: J. E. Jackson, Toronto, first vice-president; W. G. Walsh, of Florence, second vice-president, and F. L. Ferguson, of Guelph, secretary-treasurer.

Three addresses were the feature in the closing meeting of the clayworkers' association. A paper on the using of the forced draft in the burning of tile was given by G. E. Armstrong of Fletcher. He told of the methods of using gasoline fans in their operation, and that the big advantage of the forced draft lay in that any kind of fuel can be used. S. Parker of London, enlarged on the address, showing the construction of the furnaces from blackboard illustrations.

E. A. Rudin of the Crescent Belt Fastener Co., New York, spoke on the use of belt fasteners. He stated that they were the cheapest of any material used in the plant, and yet the means of saving the greatest amount of money.

The joint three-day convention came to a close with the afternoon session. The drainage men decided to hold their convention next year in Chatham, Ont., at a date to be fixed later. The meeting place of the clayworkers was not decided and the matter was left in the hands of the executive.



HOPE *for* RELIEF *in* CONVALESCENT BUILDING INDUSTRY *thru* NEW "TURN OVER" BILL

MEN who occupy foremost places in the eastern architectural profession were asked by the Dow Service to point out some of the things they see in process of development that are proving to be curative influences in the convalescent building construction industry.

Foremost among the factors that are responsible for persistent confidence in the immediate future of the building industry is that relating to supply and price of materials. It is known that the demand will tax supply for a long time to come, but the speediest way to absorb this demand is to meet it with supply. Actual construction work is progressing only as fast as materials are being delivered. At present production is slightly in excess of shipment and delivery, due to car shortage on railroads, but competition among railroads is happily clearing this situation. It will be only a short while before shipments, for a time, will exceed production. Then will come the full realization of the real stampede for building materials that has been deferred for more than a year.

LIFTING RETARDANT LEGISLATION WOULD BRING PROMPT RELIEF

Actual construction work, regardless of plan filings and building permits reported, will develop only as the supply of building materials can be augmented. But any marked stimulus in this direction can be expected only when retardant legislation is lifted from the shoulders of the producers themselves. Here seems to rest the real answer to the housing and commercial space shortage problem.

Under the excess profits tax plan there is no incentive to produce enough building materials to meet the greatest demand of its kind the world has ever known. Leading architects are almost of a single voice in accord with some plan that will reawaken the interest of the building material

producer to quicken his activity, in the form of a fair, but continuous profit on his production instead of the shimmering bauble typified by a more or less questionable and fickle reward such as envisioned by the present or possible unnatural and exorbitant prices taken from the pockets of a home-hungry populace. Recent action toward this end has been stimulated by the growing and somewhat alarming tendency of financiers to pull apart from building investments in this and other cities in favor of municipals which escape all the harassing and unnecessary burdens at present common to those in building activities.

NEW TAX BILL NOW BEFORE HOUSE

The hopeful eyes of the building world are therefore centered upon a bill introduced into the House of Representatives in Washington to substitute for the Excess Profits Tax, a very small tax on consumption or "turn-over" of all business thruout continental United States. It is only a twenty-five cent tax on every one-hundred dollars worth of sales or fraction thereof, the collection thereof to be performed in a simple manner.

As the crying need of the day, especially the hope for a speedy solution of the space shortage thruout the country, centers in a demand for vastly increased production of building materials (and so bring down the soaring costs for most construction products), it seems to those in the architectural and engineering professions and in the building industry, who have expressed themselves on this subject, that the provisions of this bill offer the quickest way out of the national enigma.

In the interim valiant efforts are being made to hold the building material price situation in hand. There is a slight shrinkage in plate glass discounts, the quotation being 55 per cent. on sizes below five square feet and 60 on prices for

sizes over that limit, but as a matter of fact the market is so shrunken today (March 15) that any quotation is merely a nominal one, which is also true to a degree in the wire lath market. Common brick is firm at \$25 wholesale, with the usual additional charge for handling, carting and 15 per cent. for delivery. There is still hope for an early adjustment of the difference existing between the bricklayers and their employers. Second hand brick, however, which has been quoted at \$54 for a load of 3,000 has been sold at \$50 but here again quotations are hardly more than nominal. Linseed oil has gone up slightly.

PRICES REMAIN STEADY BUT FIRM

The struggle between the New Jersey building material dealers and their organized help has resulted in a general open shop declaration being promulgated in order to permit building material deliveries to be made on jobs awaiting material. The steel situation is showing more activity with most of the construction market disposed to continue its placidity with regard to differences between organized labor and their employers, but with a general support of the faction that will first permit building to proceed. Barrelled lime is being sold subject to price in effect when order is shipped whether by rail or water.

General conditions controlling the building material price and supply markets indicate ample supply for immediate needs. Prices are steady, but exceedingly firm. They invite immediate acceptance under sellers' conditions and terms. Less and less is heard of premiums, but this condition might quickly return if the building material producer is not encouraged to throw in his complete capacity and the building investor is shooed into other investment markets.



Fire Brick Export Figures Show Decrease

Fire brick manufacturers of the United States have suffered severe losses in export business during the last few years, and official records for the twelvemonth ending December 31 last, which are just available, show a valuation loss of \$2,253,545. During the twelvemonth of 1918, American fire brick manufacturers exported this product to the value of \$5,001,057, and in 1919 this declined to a record valuation of \$2,747,512. In 1917 the exports of fire brick reached a valuation of \$4,011,546 which at that time was a new high record, but in 1918 the peak of the export business was reached. The decline for the twelvemonth last year is due, it is said, to the fire brick manufacturers in other countries getting back to normal, this following the close of the war. While it is not known just how many fire brick were exported with reference to particular countries, it is intimated that the bulk of this business was sent to English, French and Italian users and distributors.

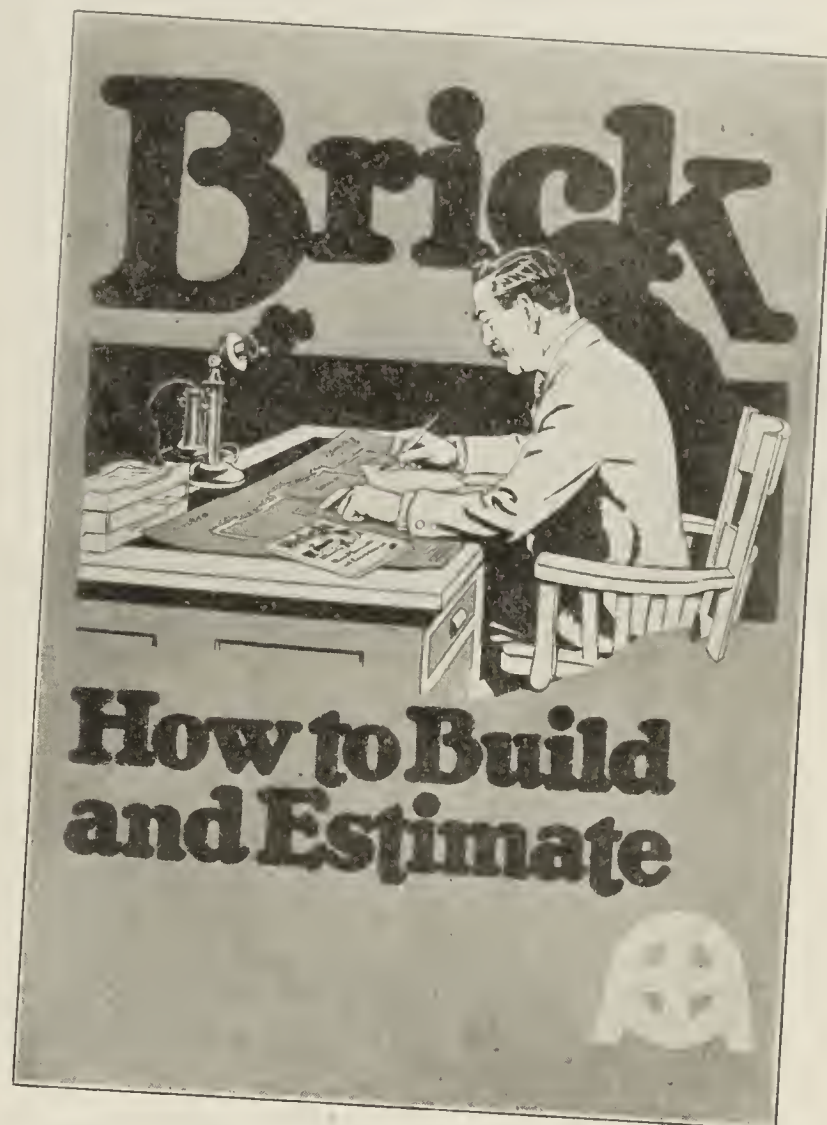
A reverse situation is to be found in the export of building brick for the fiscal term ending December 31 last. In 1919 building brick to the value of \$248,690 were exported and for the same term in 1918 the record was placed at \$117,263. In 1917, however, the exports of building brick amounted to \$196,207, which shows there was a falling off in exports during the 1918 term.

During the last three years the demand for tile—except drain tile—has been increasing annually. The record of exports for 1917 for tile was \$450,442, and for 1918 it advanced to \$582,051. A still further increase was noted in the exports for the twelve months of 1919 when the new high valuation record of \$628,836 was reached.

The demand for American building materials in Canada was very marked during the last year, altho no official records are obtainable as to the volume of business done with the Northern country for the last year.

Increase Brick Construction by Using Book

Many worth-while improvements have been made in the new edition of the booklet prepared by the Common Brick Manufacturers' Association of America, "Brick—How to Build and Estimate," which has recently come off the press.



A Worthy Book That Every Brick Manufacturer Should Send to Architects, Engineers, Contractors and Builders in His Community.

This book, it will be remembered, has been prepared for the use of contractors, architects, and all home builders and is of great help in constructing brick buildings. It is a primer in brick construction and with architectural drawings, detailed information and photographs of actual buildings, shows the contractor of even small experience how to estimate and execute brickwork profitably.

One of the new features of the volume is a table of materials and labor quantities for brickwork. By referring to the tables it is a simple matter to find the number of brick, cubic feet of mortar, laborers' time, etc., required for any wall area, of eight, twelve, or sixteen inch walls.

It is of especial aid and value to carpenter contractors who have but little knowledge in brick construction and will help them to supply the demand for permanent fire-safe homes that is increasing at a steady rate. Because of a lack of sufficient knowledge of masonry construction on the part of carpenter contractors in small towns particularly, much work which would have gone to brick was built with lumber. By distributing these books among such contractors, brick manufacturers will do them a great favor as well as create a greater demand for their product.

Manufacturers can secure copies of this book for distribution among architects, contractors, and builders in their community by writing to the Common Brick Manufacturers' Association of America, 1907 Conway Building, Chicago, and sending twenty-five cents for each copy desired.

All That Remains of the Town Hall

Every house in Champigny-sur-Vesles has suffered a similar if not worse fate than that shown in the accompanying picture. Since the Armistice a brick yard has been started in the neighborhood. It has attracted a great number of workmen, so that now the population of Champigny



Partly Demolished Building of the War Zone in France.

numbers nearly 200—about the same as in pre-war days. The factory's output goes to Rheims to rebuild the thousands of ruined homes there. The inhabitants of Champigny must wait. In the meantime they are living in rooms in the less damaged houses which they have patched up with materials furnished by the American Red Cross. Clothes, household utensils and some supplemental food have also been supplied to these war sufferers by the Red Cross.

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How Porosity Affects Insulation Properties

Every manufacturer of hollow building tile and brickmakers, too, should write to the Superintendent of Documents, Government Printing Office, Washington, D. C., for Technologic Paper No. 130, which is entitled "A Comparison of the Heat Insulating Properties of Some of the Materials Used in Fire-Resistive Construction," and which may be had for the small sum of ten cents.

This paper, which was written by Walter A. Hull, includes a report of an investigation that was preliminary to the investigation of the fire-resistive properties of full-size building columns, and was made for the purpose of determining the heat-insulating properties of the materials commonly used as protective coverings for steel.

A part of the summary of the above investigations which is printed in full in the paper and which is of especial interest is quoted below:

"Perhaps the most significant indication shown by the clay specimens is the wide difference in the rates at which temperature progress took place in the different clay cylinders. There is strong evidence here of the superior insulating value of the porous burned clay over that which is denser. Since it is largely a matter of thermal conductivity, in the case of the clays, and since the showing is entirely consistent with the existing data as to the thermal conductivity of burned clays, it seems reasonable to expect that porous clay wares will give better thermal protection, other things being equal, than denser ones, and it would seem advisable that more general recognition be given to this quality in specifications for fire-protective coverings of burned clay. Special experimental work on the relative efficiencies of such coverings, comparing the denser with the more porous coverings, would be neces-

sary in order to determine how far such specifications should be carried. It seems reasonable to predict, however, that such an investigation, by bringing out quantitatively the effect of different degrees of porosity on the efficiency of the actual coverings built up from actual structural units, hollow or solid, protecting actual steel members, would bring out information which would eventually make such protection more reliable and more economical than it usually is now, when no definite specifications as to porosity are in effect."

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Car Supply Improves—Construction Going Ahead in Cleveland Territory

Dealers in brick and other clay products for building purposes in the Cleveland, Ohio, territory are getting results already from the now privately operated railroads in this section. By appealing to their individual railroads, upon which they depend for their shipments, these dealers have been successful in the last week or so in increasing the number of cars assigned to their manufacturers, with the result that more liberal arrivals of brick are noted. Mild weather also has been a big factor in stimulating the railroads to action.

Promise of liberal cooperation on the part of manufacturers serving the Cleveland district is seen in the announcement of E. C. Carlyle, of the Carlyle-Labold Co., Portsmouth, Ohio, who was in Cleveland recently. Mr. Carlyle reports his plant in better condition for the production of face brick, and this is taken as an indication of progress by other producers, so that dealers will soon be receiving a normal supply in the Northern Ohio territory. Because production is slowly coming to a par with demand, it is expected that before spring has advanced far, shipments will be abreast of inquiries.

That there will be no significant let-up in demand for brick of any description this season is the opinion of leading distributors in Cleveland territory. Promise of building and loan associations to meet the building loan appropriation of last year, which was about \$30,000,000, is expected to offset the tightening of credits by the regular banking institutions. About the only serious reflection upon the small investor, they point out, will be the hesitancy shown by some of the backers of bigger projects, which have been postponed. Most of the large construction programs are going ahead, however.

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Hold Luncheon to Promote Good Fellowship

The Master Builders' Exchange, Philadelphia, Pa., has inaugurated a series of luncheons, to be held from week to week. The first luncheon was held at the Bellevue-Stratford Hotel, March 4, and about 115 members were present. The fundamental idea of the plan is to forward personal relations and good fellowship among those in the building trades in this city, and to help the anticipated construction progress for the coming months. Major Edwin E. Hollenback, president of the Exchange, will preside at the different meetings.

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The Erie Mantel & Tile Co., Erie, Pa., has been organized with a capital of \$15,000, to manufacture high grade ceramic tile and kindred specialties. W. K. Weaver is treasurer of the company.

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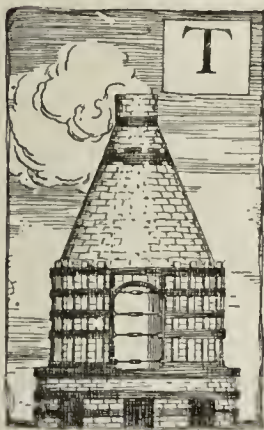
The Lapp Insulator Co., LeRoy, N. Y., manufacturer of electrical porcelain insulators, has increased its capital from \$150,000 to \$500,000 for proposed expansion.

FINE CERAMIC MANUFACTURE



A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products Such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

ART IN BRITISH POTTERY



THE SECOND ANNUAL EXHIBITION on modern pottery organized by the art section of the Stoke-on-Trent Ceramic Society in England was opened by the mayor of Stoke-on-Trent at the Hanley Museum recently. The exhibition, which is claimed by the promoters to be the only one in respect of which the examples are adjudicated upon from a purely artistic and educational standpoint, shows a marked advance on the inaugural collection of last year, both as regards the number of pottery firms it embraces and also in respect to the standard of the exhibits.

All the exhibits were submitted to a committee of the adjudicators, which included Professor Robert Anning Bell and other eminent art critics of England, and despite the fact that a much larger number of pieces are housed in the collection, more than half of those submitted were rejected as being below the standard required. The effect of this policy, of course, is to eliminate the faults of previous years and to improve the general standing of the exhibition.

Year by year, the chairman of the art section of the Ceramic Society, the Institute of Industrial Art, had asked that the collection should be shown at the institution exhibition to be held in London in April. The exhibition will therefore be transferred to London and in the meantime will also be shown at the other centers.

The Ceramic Society has shown the way to other industries in the matter of educating the public on what is highest and best in industrial art. An exhibit which attracted much attention was that of Mr. Gordon H. Forsyth, the newly appointed art director for Stoke-on-Trent, and formerly art Director of Messrs. Pilkington's factory at Clifton Junction, near Manchester. The pieces, which include examples of silver and ruby lustre, are of exquisite color.



New Base Prices Fixed on Sanitary Ware

Because of another revision in the making list of sanitary pottery products, it would create no surprise among buyers to be advised of additional revision in selling lists of these lines.

The change in the making list of the products of the various sanitary potteries of the United States affiliated with the

Sanitary Potters' Association, of which A. M. Maddock, of Trenton, N. J., is president, has been made at the request of the sanitary branch of the United States Potters' Association, headquarters of which are in East Liverpool, Ohio. Representatives of the employers' and employes' interests have concluded a conference held in the Manufacturers' Room of the American Mechanics' Building at Trenton.

An entire afternoon was taken up in discussing the operatives' claim for higher wages, which made it necessary to hold another session, when an understanding was reached, which provides a new base price on many items of sanitary ware.

Casters shall receive the same proportionate increase as the pressers. All other clay ware makers to receive an advance of five per cent. on present plussages, except lavatory makers. Lavatory makers to add 40 per cent. to base price, instead of 10 and 25 per cent. Packers, piece work, add 40 per cent. to list price, instead of 10 and 25 per cent. Packers, day wage, 60 cents per hour, plus 25 per cent. Kilnmen, \$2.60 per kilnman's day, plus 25 per cent. Bench boss, \$3.20 per kilnman's day, plus 25 per cent. Dippers, five per cent. increase on present plussage. Saggermakers, five cent increase on present plussages. Moldmakers, 72 cents per hour, plus 25 per cent.

The above price changes to apply to all work performed on and after April 15, next.

The manufacturers' original proposal fixed May 1 as the date the new agreement should become effective. They contended that it would take at least four months to fill the orders on their books that had been contracted for at the prices prevailing before the last increase was granted, and that it would mean a heavy loss to them on all existing contracts not filled by May 1. After considerable argument on this point April 15 was finally proposed and accepted by both sides, as the date the new price shall become effective.

It is the intention to compile a new price list at once which will contain the new price of all items of sanitary ware, plus 25 per cent.



Rookwood Pottery Sends Vase to Queen

A beautiful soft porcelain glaze vase of exquisite coloring and design, recently finished by skilled workmen at the Rookwood Pottery in Cincinnati, has been sent as per order to the Queen of Belgium who made a trip to the plant during her visit to Cincinnati last fall.

While examining the wonderful art treasure there she became fascinated with the vase. It is of the design called Nebula and has the royal color, a dark purplish blue. She requested permission of the officials of the company, who attended her on her tour of inspection, to inscribe her name on the vase immediately. The permission was granted and a promise given to send it to her as soon as it was completed.

Officials of the company secured a gilt bronze vase in New York called a Tiger Eye to match the porcelain vase which they sent along with it as a gift to the Queen.

While the King and Queen were touring the United States

last fall, still hundreds of miles away from Cincinnati, they telegraphed ahead to officials of the Rookwood company asking their permission to visit the plant. It is located on Rookwood place on Mount Adams, a high hill overlooking the city, and the Ohio River, and is considered one of the most beautiful locations in the vicinity.

J. D. Warchan, vice-president of the firm, said recently that the demand for their products is ever increasing and that it is likely that it will be necessary to make some additions to the plant soon.

A number of new sun rooms for large New Jersey residences were recently completed by the company. They are octagon in shape and about 30 feet across the center.



Los Angeles to Have Cooperative Pottery

Plans are practically completed now for the construction of a chinaware and pottery plant in the industrial section of Los Angeles, Cal. H. H. C. Hammerton, founder of the Hammerton Cooperative Industries, has announced that construction work on the plant is to commence this spring. Discovery of clay deposits in the vicinity of Los Angeles is responsible for the choice of location of the factory. The pottery will occupy part of a 500-acre tract at Torrence and will be operated on a cooperative basis, the employees sharing in the profits. Mr. Hammerton was formerly connected in a similar line of endeavor at East Liverpool, Ohio.



Demand for Flower Pots and Stoneware

K. P. Snyder, of the Louisville (Ky.) Potteries Co., reports an unusually strong demand for this season of the year for flower pots as well as stoneware. Inquiries have been running heavy, and business in January, February and so far in March has been much better than anticipated. In spite of prohibition and loss of jug demand, November and December business ran ahead of former years. Prospects are for a good fruit crop this year, it being held that heavy lasting sleets killed out insects. Mr. Snyder reports a very good demand for stoneware jars, which he believes are being used to a considerable degree by amateur brewers.



Building Three Additions to Plant

The Maddock Pottery Co., Third and Landing Streets, Trenton, N. J., has construction work under way on three additions to its plant for increased capacity, to include two and three-story buildings, 50x120 ft., and 65x165 ft. The company specializes in the manufacture of chinaware and has orders on hand that will require the plant output for many weeks ahead. Work has been going forward on the extensions, even under the severe winter weather, in order that they can be placed to service at the earliest possible date.



Big Export Demand for Electric Porcelain

Electric porcelain potteries are complaining of a shortage of fuel, but all plants have exceptionally good business on file. The kiln capacity of this industry is to be increased this season by the erection of a \$2,000,000 plant at Baltimore by the Locke Insulator Co., and the erection of a new plant near Star City, W. Va., by Otto Schenk and associates of Wheeling, W. Va. Additional kilns are also to be added to the production of the Findlay Electric Porcelain Co., at Findlay, Ohio. The demand for this line for export is showing a marked increase this year.

Car Shortage Handicaps Pottery

J. C. Talkenberg, president and owner of the Queen City Pottery Co., with offices at 8 West Court Street, Cincinnati, Ohio, is now on a visit to his factories at Roseville and Crooksville, Ohio, where he expects to find some means of relieving the car shortage which is holding up shipments. The firm specializes in stoneware and stoneware specialties and is now overloaded with orders. The shortage of adequate transportation facilities is becoming a serious problem with them and every effort will be made to secure the proper number of cars from the railroad officials.



Will Operate More Sanitary Pottery Kilns

Sanitary pottery products are in increased request, and additional kilns will be added this line this season. The Horton Pottery Co. will place three kilns in operation at once at Chillicothe, Ohio, and the Bowers Pottery Co., at Mannington, W. Va., will add probably ten kilns. Increased building activity thruout the country is the cause of the heavy demand for sanitary pottery.



Will Dissolve Corporation

The Pacific Coast Pottery & Terra Cotta Corporation of San Jose, Cal., has petitioned the superior court for permission to dissolve the corporation, sell the property belonging thereto and distribute the assets among stockholders. The company has a capital stock of \$500,000.



The Trenton Porcelain Co., Mead and Prince Streets, Trenton, N. J., manufacturer of electrical porcelain specialties, is planning to increase its working force in the cleaning and dipping departments, used in connection with small ware production. Girls and women are employed in this branch of the works.



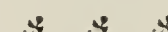
The Swiss China & Decorating Co., Brooklyn, has been organized with a capital of \$50,000, to produce high grade chinaware and fine ceramics. P. Swiss, J. Freund, and M. Birenbaum, 138 West One Hundred and Eleventh Street, New York, head the company.



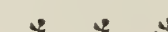
The Bureau of Foreign and Domestic Commerce states that during 1919 Germany exported to the United States undecorated china and porcelain valued at \$671,756, an increase of more than 30 per cent. over prewar years.



The Garant Mosaic & Tile Co., 147 East One Hundred and Sixteenth Street, New York, manufacturer of mosaics for wall and floor use, ceramic tiling, etc., has increased its capital to \$10,000 for expansion.



The Chelsea China Co., New Cumberland, W. Va., specializing in the manufacture of vitrified chinaware for hotel service, has recently placed a new tunnel kiln in operation at its works.



H. S. Maddock, of the Thomas Maddock's Sons Co., Trenton, N. J., manufacturer of sanitary earthenware, has returned to the city, after an absence of about two months in Europe.

The SUPERINTENDENT

Helpful Hints for Practical Men
Whose Problem is Maximum
Production With Minimum Cost

Care of Pipe-Line Valves

When valves become hard to open and close, some engineers use a wrench or bar without any thought of locating and correcting the defect. In the first place, the packing should be kept lubricated and should be renewed often enough to prevent leakage. Many high-pressure gate valves can be packed when wide open and under pressure.

The stems of rising-stem valves should be given an application of graphite and cylinder oil at regular intervals. If this attention does not correct the trouble, the stem may be binding at the threads. To overcome this, the threads should be given an application of valve-grinding compound, and the valve should be opened and closed a few times. The grinding compound should then be cleaned off with kerosene.

Gate valves sometimes work hard on account of binding between the wheel hub or nut and the yoke. The nut should be removed from the yoke and cleaned and, if necessary, dressed off with a file. Before being replaced, the nut should be coated with graphite and cup grease. For positive assurance against the trouble occurring again, drill an oil hole in the yoke or put on a grease cup. The engineer who keeps the valves in his care in good condition will have less hard work and will have made life and property safer in his plant.—C. P. Lawton in "Power."

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New Methods in Fire Brick Manufacture

One of the interesting papers read at the recent annual meeting of the American Ceramic Society was that delivered by R. H. Minton, at one of the sessions of the refractories division. The title was "Design for a Fire Brick Plant" and it described a plant in New Jersey where the methods of manufacture presented in the paper were rapidly being installed, many of the features being already in successful operation.

The fire brick in this particular plant are made from a plastic fire clay and formed by the dry press process. The clay is picked up from the clay storage by means of a bucket conveyor and carried to the wet pans where a thoro mixing is effected. A pan emptier causes the wet clay mixture to be transferred into a rotary dryer which is about thirty feet long. The dryer is built so that it is tipped up sufficiently to cause a slow movement of the clay from the mouth to the exit end. Waste heat from cooling kilns is passed thru the dryer and the clay gives up a considerable part of its water content thru evaporation.

The use of a rotary dryer in this connection is a new feature in brick manufacture which has been introduced. The clay from the dryer passes directly into a dry pan where it is reground and passed over screens into a bin which feeds the dry press machines. The dry press machines are equipped with electric filaments and are able to form brick containing 17 per cent. of water. Thus a brick having some of the advantages of a stiff-mud brick is obtainable.

The formed ware is then passed thru a waste heat dryer and thence into kilns. In case there is a shortage of waste heat the dryer is fired with coal in an auxiliary furnace.

Another feature of this plant is the arrangement of the round down-draft kilns which are placed in a circle. Six kilns of 32,000 brick capacity each, are placed in a structure built circular which conserves wall space. Each kiln has a circular flue running under the wall of the kiln which is connected with the main flue of the next kiln. Thus the hot gases are passed from one kiln to another since each circular flue is connected to the fire boxes. In this manner all of the kilns are connected so that a continuous system of burning can be applied. A large main stack is located in the center of the area occupied by the kilns and connected to each kiln.

The brick are fired to a temperature of cone 15 in four days using about 650 lbs. of coal per 1,000 brick when the hot gases are used for watersmoking and heating up and about 900 lbs. per 1,000 brick when the hot gases are not utilized. These returns compare favorably with ordinary results obtained in periodic kilns which show an average of 1,440 lbs. of coal per 1,000 brick burned.

* * *

Possibility of Another Coal Tie-Up

As this issue is going the press we are again upon the threshold of another complication, which, if it comes to a head, means another experience similar to the one which gripped the country last fall. As tho the car situation as well as the labor shortage was not sufficient to worry the clay products manufacturer, there now looms up another fiend which promises to multiply the troubles of an already much wearied lot of manufacturers.

Reports indicate a serious complication due to conflicting laws and recommendations with regard to the case between coal miners and operators. President Wilson's plan of having the operators and miners work out their contracts for the new coal year beginning April 1 is said to be in direct contrast with the basis upon which many of the indictments of 125 operators and miners whom the government was prepared to swoop down upon, were drawn. Furthermore, such a conference would be another violation of the Lever Act providing the present indictments bring about convictions.

It has been pointed out by mine leaders that the present contract in force between the operators and miners expires March 31 and that unless a new contract is arranged before that time the nation will face a general shutdown then. Experience shows that without a contract in force the miners will not return to work.

It looks as tho clay plant operators would do well to store up as much coal as they possibly can before April 1, so as to prevent the possibility of being tied up for lack of fuel in case the situation does not clear up.

* * *

Announced from Mexico City that according to press advices from Northern States, Mexican workers are going to United States in large numbers, and the exodus is becoming alarming.

IN *the* WAKE *of the* NEWS

Being a Brief Mention of a Host of Interesting Happenings in the Varied Fields of the Clayworking Industry

Off On a Six Weeks' Jaunt

W. D. Brickell, president of the Ironclay Brick Co., of Columbus, Ohio, left about the middle of March on a six weeks' pleasure trip to Los Angeles, San Diego, San Francisco and other western points.

Superintendent for 21 Years, Resigns

F. A. Grimes, who has been superintendent of the plant of the Ironclay Brick Co., at Shawnee, Ohio, for 21 years, has resigned to retire from active business. He has been succeeded by H. O. Wilson, of Minneapolis, who is a well-known brick man. The change took place March 15th.

Elected President for 17th Time

At the annual meeting of the board of directors of the Chestnut Ridge Corporation, which owns a big plant at Kunkletown, Pa., and a large tract of mineral land, James G. Beemer was elected president for the seventeenth time and Miles W. Beemer, his son, was elected vice-president. James G. Beemer, Jr., another son, is in charge of the Kunkletown property. It looks very much like a Beemer corporation principally.

Australian Brick Man Inspects Plants

W. E. Roper, Australian brick manufacturer, was in Pittsburgh during the past fortnight inspecting several plants with a view to learning America's newest methods of making brick and tile. Mr. Roper, who went to Sydney twenty years ago from St. Louis, Mo., declared that the demand for all kinds of clay products in his country today is so great that in the past six months more brick and tile companies have been incorporated than in any five year period before.

Operated Brickyard, Bakery and Hotel

Charles Mercier, for many years engaged in the brick manufacturing business at East Douglass, Mass., retiring about five years ago, died on March 8 at the home of his adopted daughter, Mrs. Joseph Lavelle, at Woonsocket, R. I. He was 80 years of age. Mr. Mercier was born in St. Henri, Province of Quebec, and moved to East Douglass more than half a century ago. During his residence there he had many town offices and in addition to his brickyard, conducted a bake shop and a hotel.

"Charlie" Harris a Successful Realtor

Friends of Charles T. Harris, former sales manager of Fiske & Co., Inc., New York, N. Y., and later secretary of the Hollow Building Tile Association and of the National Builders Supply Association, will be glad to learn that "Charlie" is doing well in the real estate business in Cleveland. He is with the Knight Norris Gibbs Co., being vice-president of the concern. Mr. Harris started with this company as manager of the brokerage department. "Charlie" is looking good and is in the best of spirits. He has supervision of fourteen salesmen.

Western Producer Takes Pleasure Trip

One of the prominent western manufacturers was a visitor to the office of *Brick and Clay Record* recently. Charles P. Oudin, president and general manager of the American Fire Brick Co., of Spokane, Wash., stopped in Chicago on his way back to Spokane after having made an extensive pleasure trip with his wife and daughter, which included a visit to the Panama Canal, the West Indies, various cities in the East and other points. While in the East, Mr. Oudin had the privilege of visiting one of the most modern plants in the country, at Baltimore. Mr. Oudin has been on his journey since January 10th.

Wears a Smile That Won't Come Off

At the French Lick convention, some of the manufacturers and dealers present had an opportunity to see a few samples of face brick that were very unique in texture and beautiful in colors. Among these were Messrs. Findlay and Black, of the Hay Walker Brick Co., of New York. They must have made a deep impression, because recently "Bob" went scouting down to Sumter, S. C., where the Dixie Texture brick are made. Bob must have done good business, had a good time, met a good looking widow or saw some very good looking brick, because he now wears a mysterious smile that won't come off.

Death of W. T. Goode

W. T. Goode, 45 years old, owner of the San Antonio (Tex.) Sand, Lime & Brick Co. died at his home in San Antonio, following a stroke of paralysis. He was one of the leading business men of South Texas and was interested in a number of manufacturing and banking enterprises. Mr. Goode was born in Lenaxa, Kans., in 1874, and received his education in that state. He was interested in several business concerns in Kansas before coming to Texas, where he was first connected with the Moody enterprises in Galveston. He organized the First National Bank of Bay City. During his residence in San Antonio he had been interested in the real estate business and was also a prominent figure in other lines of activities. He was a member of the San Antonio Real Estate Exchange and the Chamber of Commerce and an active member of the first Presbyterian Church. The body was sent to Hearne, Texas, for interment.

Two Pioneer Cleveland Brick Men Pass Away

Two pioneer brick men in the Cleveland, Ohio, district have passed away. W. M. Nichols, sixty-five years old, died at his home on the South Side after a long illness. Mr. Nichols had been retired for the last two or three years. He was one of the organizers of the Cleveland Brick & Clay Co., following several years' connection with the Cleveland-Canton Brick Co., which was taken over by the Metropolitan Brick Co. Mr. Nichols originally planned that the Cleveland Brick & Clay Co. was to make parlor tile, but after operations started in 1902 this idea was abandoned, and activities have since been confined to building and

paving brick. Mr. Nichols was general manager of the Cleveland Brick & Clay Co. until his retirement.

Rodney G. Wallace died at his home on the South Side of Cleveland, March 12, at the age of eighty-five years. He also was one of the pioneers in brick manufacture in Northern and Eastern Ohio. Later he became identified with coal interests. For the past several years he had retired from all business.

Second Largest Brickmaker in America

Bernard F. Weber, recently elected a director of the Common Brick Manufacturers' Association of America, first engaged in the brick business in 1889 with a small interest in the Jefferson Brick Co., of Chicago. He afterwards in-



BERNARD F. WEBER.

creased his interest in the business by organizing the Weber-Labahn Brick Co., in 1891. In 1895, he disposed of his interest in that company and erected his own plant, now known as "Yard Five" of the Illinois Brick Co., which was at that time considered the most modern brick manufacturing plant in the Chicago district. All of these interests, together with some thirty or forty plants, were merged in 1900 into the Illinois Brick Co., of which

he was the managing vice-president until he disposed of his holdings in that concern and, with his former associates, organized the National Brick Co., of Chicago, in 1905, of which he is now president and principal stockholder. This company, operating four plants, has a capacity of over one million brick per day and is probably the largest concern in the brick industry in the country, which is not a merger.

Brick Selling Concern Incorporated

Papers of incorporation have been filed in the probate court by the F. Graham Williams Brick Co. The concern has an authorized capital stock of \$5,000 and will do a general brick selling business. Its headquarters are in Birmingham. The officers are: F. Graham Williams, Atlanta, Ga., president; J. W. Sibley, Birmingham, vice-president, and Joseph S. Cook, Jr., Atlanta, Ga., secretary and treasurer.

New Kilns and Dryers to Double Capacity

Additions to cost over \$100,000 are being made at the plant of the Roper-Strauss-Ferst Co.'s plant at North Birmingham, Ala. The plant manufactures hollow building tile. Work on the addition has been started and it is expected that it will be completed about June 1. Eight new kilns and the necessary dryers are being erected. The improvements will practically double the capacity of the plant. The new addition will give an added capacity of 2,000 tons per month, making the total capacity of the plant about 4,000 tons per month.

Asking for Bids on Common and Face Brick

Bids are now being received by the Fresno School Board for the furnishing and delivery of approximately 2,000,000

No. 1 merchantable common brick and 250,000 selected face brick. Delivery will be required during the months of April, May, June and July.

Gregory Bros. Operating Brick Yard

A brick yard at Ione, Cal., is now being operated by the firm of Gregory Bros. Improvements have been made in hauling facilities and the cost of moving the clay has been decreased. A trestle has been built which does away with a round-about hauling in wagons. Dump cars are now used, furnished by the Amador Central Railway.

Prices to Advance—Shortage Keenly Felt

A general shortage of common brick still continues thruout California. The condition in and about San Francisco is much less acute than in the valley sections of the state, but the prevailing price of both brick and hollow tile, terra cotta, etc., is an indication that the market is short of all these commodities.

It is expected that another increase in clay products prices will be put into effect before the end of the month. Factory output is falling short of the demand and many manufacturers are no longer able to take orders until after June or July.

Many contracts for brick work have been let in connection with local construction jobs, among which is a \$22,000 structure, the brick contract for this going to N. Anderson, of San Francisco.

Will Stabilize Building Industry

Clay products manufacturers of San Francisco, Cal., have expressed their interest in the recent agreement reached between the San Francisco Building Trades Council and the Building Industries Association of San Francisco regarding the future stability of the building industry in general. It is said that lockouts and strikes will no longer be experienced in this city for all controversies which will hereafter arise between employers and employees will be settled thru arbitration and mediation without cessation of work. The agreement goes into effect on April 1, 1920, along with a wage increase of 50 cents per day, which is provided for a number of the lower paid crafts in the trade.

The agreement further sets forth that all contracts must be finished under the conditions and wage scales maintaining at the time such contracts were entered into, this being done to insure the completion of contracts within their time and cost estimates.

Another point of the agreement is that should living conditions justify a change in wages, either an increase or a decrease, such changes will be made by mutual consent of both bodies concerned, only after sufficient proof has been established and submitted. The announcement of the agreement was made several days ago by P. H. McCarthy, president of the State and San Francisco Building Trades Council. He said in relation to the present day problem:

"It is high time that the uncertainty and unrest in the building industry should stop. The activities just now, are the most extensive that have maintained at any time in the United States. The building program already mapped out for San Francisco this year is very large. There has been more or less fluctuation in the prices of various building materials which has created a certain amount of unrest. In order to eliminate such a situation in a permanent manner, a Joint Conference Committee has been appointed by the Building Trades Council representing artisans, mechanics and laborers in the

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Manufacturers of North Bend, Dover and Buckeye Brands.

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Unexcelled for Kiln Purposes

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For handling coal and other materials.

Simple, inexpensive yet highly efficient.

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Eclipse Mortar and Brick Colors

Superior to all; Reds, Browns, Buff, Black
Samples on application

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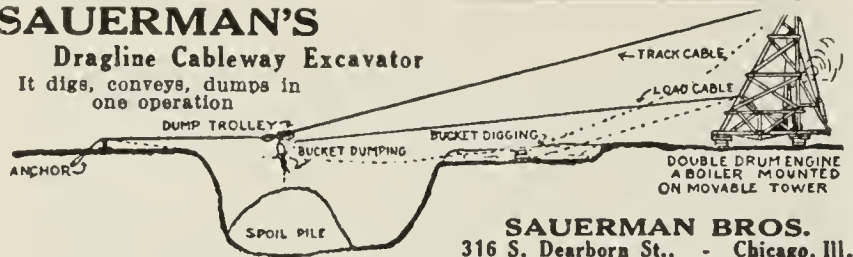
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Dragline Cableway Excavator

It digs, conveys, dumps in one operation



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Brown, Black, Red and Buff

Strongest and most durable

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Leschen Wire Rope

We make Wire Rope for every wire rope service. If you will tell us how you use Wire Rope we shall be glad to suggest the correct rope for the work.

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**A. Leschen & Sons
Rope Company**
St. Louis, Mo.



RED STRAND

New York
Denver

Chicago
San Francisco

building industry, and the Building Industries Association of San Francisco, representing the contractors and employers in all departments of the trade. A definite and harmonious decision has been reached between these two organizations which guarantees to the owner, investor, employer and employe, that all bona fide contracts will be completed without friction or interruption and in accordance with the conditions maintaining at the time of the execution of such contracts."

The committee has just finished a thoro investigation of the building program contemplated in San Francisco and other parts of the state, including the price of materials of different sorts and the cost of living in regard to the wage problem. It has been agreed that further changes in the wage scale shall be made in coordination with the living standards.

Members of the local trade are endeavoring not only to stabilize the building industry, but to standardize the methods of procedure and to regulate the activities among the allied crafts and organizations.

Records Transfer of Kiln Brick

A deed transferring land and a kiln containing about 216,000 brick has been filed for record with the town clerk of Middletown, Conn. The Central Connecticut Brick Co. of New Britain made the transfer, according to the deed, to the McDonnell Brick Co., of Middletown.

Brick Company Incorporates at Dover

The Scott Brick & Tile Co., Dover, Del., has been incorporated with a capital of \$200,000, to operate a local plant for the manufacture of common brick, tile and other burned clay specialties. The incorporators are Edward C. Scott, John R. Hutton, and Charles C. Fryer.

Bricklayers to Work Half Day Saturdays

That bricklayers are getting the "proper spirit" at Wilmington, Del., is rather evidenced by the action of the local organization regarding Saturday work. During 1919 the men took off this entire day during the months of May to September, inclusive, but this year they have decided to work on Saturday morning thruout the summer season, holding that conditions do not warrant a "lay off" of this nature at the present time.

New Refractories Concern at New Castle

There is a building boom in sight at New Castle, Del., and the outlook is raising the hopes of those in the trade to a high point. A number of important projects are expected to be launched during the next few weeks, involving considerable investment. Moreover, this section is taking on a broad industrial aspect, not only in the metal-working and affiliated branches of trade, but in the line of other manufacture, and among these, clay products. The New Castle Refractories Co. has been organized under Delaware laws, with capital of \$50,000, to operate a plant in this district for the manufacture of refractories and other burned clay products. The incorporators, all of Wilmington, are M. A. Bruce, T. L. Croteau, and S. E. Dill.

Housing Situation Deplorable at Wilmington

Wilmington, Del., has been experiencing weather conditions during the past week or so that have not only gone to retard construction operations, but severely handicap all other

lines of industry as well. Thru the rising of the Brandywine River, due to heavy rains, territory in this vicinity has been flooded; the situation has grown so bad that fully 500 people were made homeless temporarily on March 6. In the days following it has been possible to make an estimate of the loss, and this is stated to be not less than \$100,000. Even with this handicap, the realty market continues to show substantial progress, and numerous projects are in view for early launching. Apartments and houses are needed badly in this section, the situation having reached an almost deplorable state, and it is only prompt and intensive action that will right the condition. An interesting enterprise which has just come to the front is a new three-story brick and stone building for the Wilmington Savings Fund Society, to be located at Market and King Streets; it is estimated to cost about \$290,000.



Edward C. Scott, John R. Hutton and Charles C. Fryer, all of Dover, Del., have incorporated the Scott Brick & Tile Co., with a capital of \$200,000.

Prices Tend Towards Higher Levels

Washington, D. C., is experiencing an active building material market. There is a firm call for commodities of all kinds, with the popular burned clay varieties well in the lead. Common brick is selling for about \$24 a thousand, delivered, with some dealers asking as high as \$25 and \$25.50. At the various yards, on the other side of the Potomac River, the material is being sold at \$20. Fire brick is finding a ready market at a price around \$70, while hollow tile, partition tile and other clay products are tending towards higher levels. Drain tile and sewer pipe are holding their own, with good call and distribution.

Hydraulic Plant Output Sold Far Ahead

The Hydraulic-Press Brick Co., Washington, D. C., is operating its local plant, just across the Potomac River, at good capacity—in fact, the best possible under current circumstances, for the output is sold for some time ahead. This plant has an output of about \$380,000 brick a week, all being of smooth variety. Red face brick is in very active call for shipment to the South, and many thousands are going forward for operations in this territory. At its two plants in Pennsylvania, the company manufactures rough and textured face brick of various kinds, and all such material sold in the Washington district is shipped from these yards. The prevailing price for red varieties in this section at the present time is \$30 a thousand, while grays are selling for about \$38. A busy season is looked for, not only in the immediate vicinity, but for shipments to all parts of the country served by this office.

February Plans Filed Total \$1,527,112

The building industry at Washington, D. C., is only waiting a few more days, for with the coming of real spring weather big activities are expected. A survey of the local field shows that those in the trade are decidedly optimistic as to the outlook. Numerous important buildings are planned, as well as multitude of dwellings and other housing structures. During the month of February, plans were filed for new buildings in the city to a total amount of \$1,527,112, an increase of close to one-half million dollars over the figures for January. This aggregate involved an aggregate of 219 new buildings, which shows that the community is not show-

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They will show every fluctuation above or below the prescribed standard.

Bristol's Pyrometers pay for themselves many times over by the economies they will enable you to make.

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THE BRISTOL COMPANY, WATERBURY, CONN.

BURN ANY COAL

Never mind the quality; put it up to

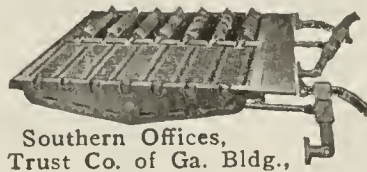
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MANGANESE DIOXIDE

*Uniform Physically
and Analytically*

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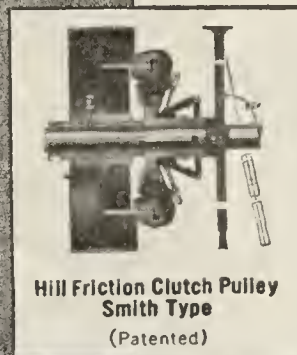
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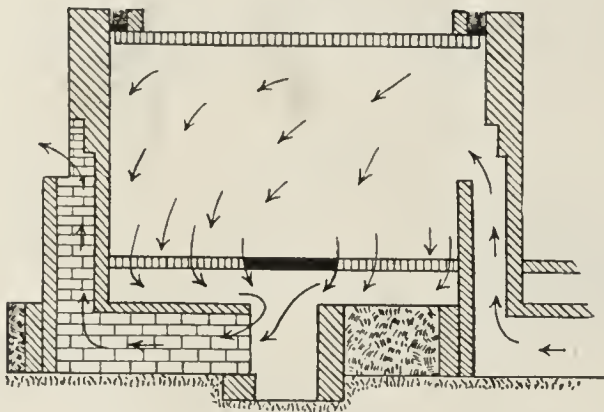


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OVER 2000 USERS
FOR STORING AND RECLAIMING,
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CARS, TRUCKS AND WAGONS
DOES THE WORK OF
FROM 6 TO 12 MEN
AND KEEPS EQUIPMENT MOVING
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A direct fired continuous kiln in successful operation. Just walk along and shovel in the coal like firing a boiler. Can flash the goods the same as a round down draft kiln. Nothing to it—any ordinary kiln burner can handle the kiln. Everyone knows what a successful continuous kiln means. 50% of fuel saving. This kiln is straight down draft—cheaper to construct than round kiln.

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Okabena, Minn.

They Drill Big Blast Holes

at the plant of the Kansas Buff Brick & Manufacturing Co., Buffville, Kansas.

They say:

"It has cut the labor and fuel bill about 60%, and the powder bill about 50%. It paid for itself in the first three months; it saves enough powder each year to more than pay for its initial cost."

This is interesting because it is a fact.

Write for literature on Big Blast Hole Drilling

The Sanderson Cyclone Drill Co.
1778 Broadway
New York City
Orrville, Ohio

ing any backward tendency. The Committee on Public Buildings and Grounds is now considering two interesting projects, and reasonably early action is expected. The first covers an appropriation of \$2,000,000 for the erection of an annex to the Congressional Library, to be used solely for historical documents, records, relics, etc., while the other calls for a fund of \$500,000, for the erection of a hospital for former service men.

Burley Plant Installs New Equipment

About 25 men are employed at the plant of the Burley Brick & Sand Co., Burley, Idaho, turning out 30,000 brick a day in order to meet the demand for brick for spring building. The plant has been running its dry press system since February 1 and is now planning to put in a drag line to bring the clay into the bins. This will not do away with team hauling completely but as it will bring clay that is under water, it will go far toward improving the quality of brick made. This drag line was purchased from the government in South Dakota, and consists of a cable with buckets strung along that will go under water and fill themselves. Steam will be the motive power. A new wire cutting machine that has a capacity of 100,000 brick per day is ordered for Burley and as soon as it arrives, the yard will be operated in full force. The company now has a large number of orders on hand, one being for brick for the new school in Twin Falls. The local demand will be large while calls from all parts of the state and Northwest will keep the plant extremely busy until the season is over. The Burley Brick & Sand Co. have a large investment in their yard east of town. The railway has a spur track right up to the works which makes shipping an easy matter.

Incorporates in Delaware at \$100,000

The Bloomington Brick & Tile Co. has been incorporated under the laws of Delaware with a capital of \$100,000, to do business in Indiana. Charles C. Shinn, Logansport, Ind., is named as agent.

Change in Working Schedule

A new working schedule was put into effect by the Standard Brick Co. of Evansville, Ind. on March 1. The machine crew now work nine hours per day. The brick setters and carloaders work eight hours per day. A substantial increase in wages also has been given to all employees.

Form \$2,000,000 Corporation at Des Moines

Three prominent Iowa clay manufacturers, Floyd W. Straight, of the Auburn Brick & Tile Co., Auburn, Lawrence E. Stone, formerly of the Shackelford Brick Co., Des Moines, and Tom W. Green, of the Tom Green Brick Co., Sioux City, have filed articles of incorporation at Des Moines for the formation of a \$2,000,000 clay concern. This company will take over several plants now in operation and will build new ones. Such products as face brick, common brick and hollow building tile are to be manufactured. The Straight Clay Products Co. will be the name of the new concern and its main office will be located in Des Moines. F. W. Straight is president. All three of the above men interested in the company are very prominent in the clay products industry in Iowa, and the fact that they are taking this step instead of men who are new in the game, will be of distinct advantage to Iowa producers.



"The Chain of Double Life"

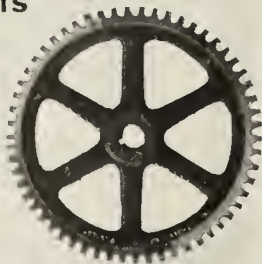
UNION STEEL CHAINS

Over 40 different sizes and types of steel chains to fit standard sprockets 1-in. pitch and larger. Special Chains up to 1,000,000 lbs. ultimate strength.

They've Chained Many
a Plant to Prosperity

THE UNION CHAIN & MFG. CO.
SEVILLE, OHIO

ROLLER CHAINS
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ATTACHMENT LINKS
BUCKETS
ETC. ETC.



Common labor around the brick yards in Kentucky is now costing forty to fifty cents and as high as fifty-five cents an hour, this including men operating trucks, filling kilns, firing, and general work.

Louisville Bricklayers Getting \$10 a Day

It is claimed that the labor situation may have more to do with later developments in the building trade than shortage of material. Bricklayers are now getting \$10 a day, or \$1.25 an hour for an eight-hour day, which is a twenty-five per cent. premium over the union scale. It is claimed that they will ask an advance to \$1.50 an hour shortly. Holding bricklayers has been hard due to efforts of northern and eastern contractors to carry them away for big jobs.

Louisville Prices Go Up Again

Louisville has again advanced prices on clay products, and leading manufacturers are quoting common brick at \$19.50 on board cars, or \$22 delivered; and face brick at \$32.50 on board cars, or \$36 delivered. Hollow tile is quoted at forty off universal list on board cars, and thirty off delivered. Lexington is reported to be quoting common brick on board cars at \$20 per thousand, sight draft, bill of lading attached.

Early Building Activity Causes Heavy Demand for Clay Products in Louisville

The leading manufacturers of common brick, face brick, sewer pipe, hollow tile and fire brick in Louisville, Ky., all report good business. Hollow tile is in heavy demand for fireproof buildings, apartments, hotels, etc., while a great deal of street work and sewer work is developing a demand for sewer pipe. Early building activity is keeping the brick manufacturers running at full capacity, there being a heavy demand for both common and face brick.

The greatest difficulty just now is in securing cars for shipments, as railroads are short of cars generally, and shipping is heavy. However, lumbermen report numerous inquiries for lumber from railroads, with prospects of heavy car building if the railroads can secure necessary steel and labor to carry out their plans.

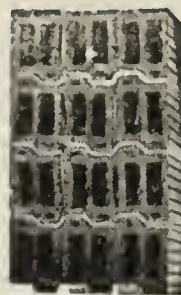
The Louisville (Ky.) Fire Brick Works reports a good demand for its products, especially from the steel mills and railroads, but is still far behind on deliveries due to steady car shortage. The Louisville plant as well as the one at Grahn, Ky., are both running at capacity.

The Progress Pressed Brick Co. has installed a new pulverizing machine to replace one that was too light for the work, and is now all set for a steady run until the snow flies next winter. Bad weather has been encountered during March, following a generally bad winter, but the company had a good stock of clay under shelter, and is running at capacity.

The P. Bannon Pipe Co., according to Sales Manager A. P. MacDonald, is swamped with orders for hollow tile and sewer pipe at the present time. The company has recently secured a big hollow tile contract on the Henry Clay Apartments, at Lexington, Ky.

The Southern Brick & Tile Co. was delayed in getting operations started again, but began running its plant on March 15, after a shut down of more than six weeks, for repairs. The company reports stocks depleted, and heavy orders on hand.

James T. Howington, of the Coral Ridge Clay Products Co., reports a very heavy demand for common and face brick as well as hollow tile, with some hold-up due to car



"LOXALL" Popular Hollow Tile

is being licensed to manufacturers in the U. S. A. and Canada. It has earned the title of "Popular Tile" because it is easy to make, lay and sell, and is liked by the Builder, the Mason and the Manufacturer.

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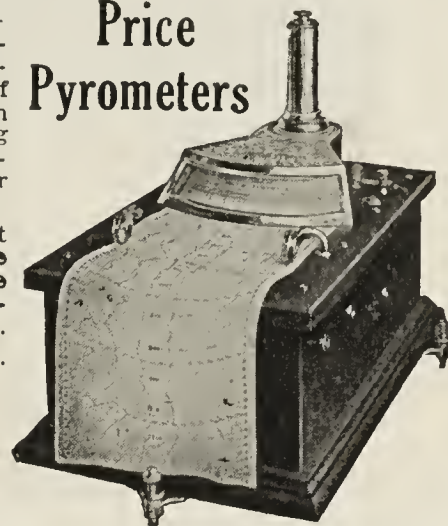
By giving burners an accurate control over temperatures, and helping to prevent useless shoveling of coal, Price Pyrometers in many plants are saving tons of coal. These instruments have repaid their first cost long ago.

There are other important advantages in using Price Pyrometers. We will be pleased to explain these advantages to you in detail. Ask us. Catalog on request.

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A Tank You Can Trust

You don't have to keep your eye on a Caldwell Cypress Tank. You need have no fear of breakage or leaks. It's like a good workman—on the job and giving honest service every day in the year.

Because the Caldwell Tank is built of the highest grade materials according to engineering principles by experienced tank builders who realize that a good tank is more than a carpenter's job. As a guarantee against leakage, every joint is machine-planed with full bearing and the hoops are spaced so that no hoop is over-stressed.

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TANKS
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STANBRIK

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Hollow Interlocking Brick.

A face brick and a backing all in one.

Non-continuous mortar joints. Have the appearance of solid face brick.

License granted to manufacturers in United States & Canada.

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We Can Save You Time, Money and Trouble on Fire Brick

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Quality, Price and Service

Freight Rates on all R.R.'s in UNITED STATES and CANADA

A Trial Shipment Will Convince You. Write Us

ALSEY BRICK & TILE COMPANY
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Easy, Cool Bearings

Nonpareil Anti-Friction Metal is particularly helpful on heavy bearings in brick and clay plants, on motors, cars, and on all bearings that are apt to develop friction and heat. More power. Less shrinkage and less oil. No more hot journals.

Nonpareil has been easing the load on bearings since 1885. Trial order solicited.

THEODORE HIERTZ METAL COMPANY
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shortage. Coal is scarce, but can be secured by placing orders far ahead of actual need. Mr. Howington has orders now with some three coal producing companies for distant needs. Eastern Kentucky mines have been operating only three days a week, due to car shortage.

✱ ✱ ✱

The Baltimore Brick Co., Baltimore, Md., has arranged for the erection of a new one-story storage building, 30x80 ft., at the corner of Highland Avenue and Monument Street.

Cumberland Expecting Building Boom

A building boom is anticipated at Cumberland, Md., and numerous projects of large scope will be placed under way at an early date. It is estimated that about 4,000 homes are needed in this section to provide for workers at new industrial establishments, and many of these dwellings will be placed under way with the coming of the spring season. At the present time the Maryland Glass Co. has plans under way for the erection of an addition to its works to double the present capacity; the Alleghany Motor Co. will erect a large sales and service building, and the Cumberland Candy Co. is arranging for the construction of an extensive addition for increased output. These are only a few of numerous enterprises and one of the busiest periods of building ever seen in this section is likely to ensue.

Heavy Call for Commons at Baltimore

The building material market at Baltimore, Md., is a decidedly active one—too much so, in certain ways for available stocks. Supplies are not reaching the city in the volume ordered, nor in the time anticipated, with the result that materials are not as plentiful as they might be. Common brick holds the center of the stage in the matter of active demand; the call is extremely heavy for new spring work, and large motor truck loads can be seen daily delivering to all parts of the district. There is no variation in price, remaining at from \$22 to \$23 per thousand, delivered; a few of the mason material dealers are asking from \$28 to \$30, but this is for shipments reaching the city from Pennsylvania points. Face brick is in good call, with prices ranging from \$34 to \$45 per thousand for high grade material in good variety. Burned clay products of other kinds are operating under a keen market, such as hollow building tile, drain tile, sewer pipe, etc. Fire brick is coming to the front in an interesting way, with present price around \$71 a thousand, delivered on the job.

Insistent Call for More Homes in Baltimore

Every day is seemingly a busy day in building circles at Baltimore, Md., for rain or shine makes little difference in the matter of the development of new activities. More than once in past months, *Brick and Clay Record* has reported that operations are coming along at a most encouraging status in this district, and the same condition holds true at this time. The spring and summer months are expected to show still greater volume of work, and if those in the trade are busy now, what's going to happen then? Industrially, the city is forging ahead in a wonderful way, and during the month of February no less than eleven new enterprises of this character were brought to the city. This means a call for new homes or housing quarters, so that the reflection reverts back to the channel of increased apartment and home building. This is a thought that is not being neglected, and the situation, as a whole, seems well in hand. The University Homes Co. has completed plans for the erection of 25 two

Equip Your Kilns with SCHURS No. 1 DOWN-DRAFT KILN BURNERS

For quick burns and better colors.

The Schurs is the ONLY Kiln Burner provided with a hood to protect the low fire from strong drafts when water smoking. Different types of Burners for the various classes of kilns.

Write for Catalog

SCHURS OIL BURNER CO.
Los Angeles, Calif., U. S. A.

Sole Mfrs.

Note
Adjustable
Tip Hood

"Be Sure
it's
Schurs"



This burner will produce a light fire close to the tip hood or to the rear of the furnace as desired, with just a half turn of the tip at a time.

and one-half story brick residences in the University Park-way district; this project is estimated to cost about \$180,000; Charles Herbold & Sons have filed plans for the construction of 16 two-story brick houses on Longwood Street and Harlem Avenue; the work is estimated to cost in excess of \$50,000, and the Frank Novak Realty Co. has perfected plans for the erection of 15 two-story brick houses on Chilton Avenue, to cost about \$45,000. These are only a few of the many enterprises of this nature that are going forward, and show conclusively that action in the right direction is being taken. In the matter of industrial building, many important developments are planned in addition to the work now under way; the Columbia Graphophone Co., New York, has completed plans for the first unit of its proposed new plant in the Orangeville district, the entire group of new structures being estimated to cost in excess of \$5,000,000. Plans for new buildings filed during the past month aggregated \$3,233,880, covering in part 15 warehouses and factories, and 252 two-story brick dwellings. The local construction work for January totaled \$2,915,160.

Atwater & Dow Brick Plant Sold

The firm of Atwater & Dow, which has conducted a brick yard at South Amherst, Mass., for the past ten years, has disposed of the business to Springfield parties. Mr. Dow will remain with the new owners as plant superintendent and Mr. Atwater has accepted a position in the treasurer's office of Yale University, New Haven, Conn.

Makes Shipment After 3 Months' Blockade

The Bridgewater (Mass.) Brick Co. on March 4 made its first shipment of brick in more than three months. The condition of railroad tracks running into the yard, as a result of storms, had prevented shipments. The company has many large orders in hand and expects to keep stock moving continuously from now on. Work will be started soon to fill a contract recently awarded the company, for 20,000,000 brick.

Massachusetts Association Elects Officers

George A. Parry, of the Parry Brick Co. of Boston, was re-elected president of the Massachusetts Brick Manufacturers' Association at the annual meeting held in Boston on March 4. R. T. Bailey of Springfield was elected as vice-president and W. S. Atwood of Bridgewater, secretary and treasurer. The attendance at the meeting was very large and according to President Parry, the outlook for the industry was never better.

To Hold Boston Commons at \$27

Nominally the price of brick to purchasers of large lots in Boston has been \$27 per thousand delivered on the job, during the past fortnight, but there have been few deliveries. Dealers say they have no lack of orders but because of the railroad situation were for several weeks unable to make shipments. Some shipments are now going forward, however. It is generally understood that producers will endeavor to hold the price at \$27 notwithstanding fuel and labor difficulties feeling that stabilization will have a desirable effect on business conditions.

Will Manufacture Tile Only

The Zeeland Brick & Tile Co., of Hamilton, Mich., has resumed operations but has discontinued the manufacture of brick. Its product will be tile only.

ANNOUNCEMENT

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Headquarters will be located at
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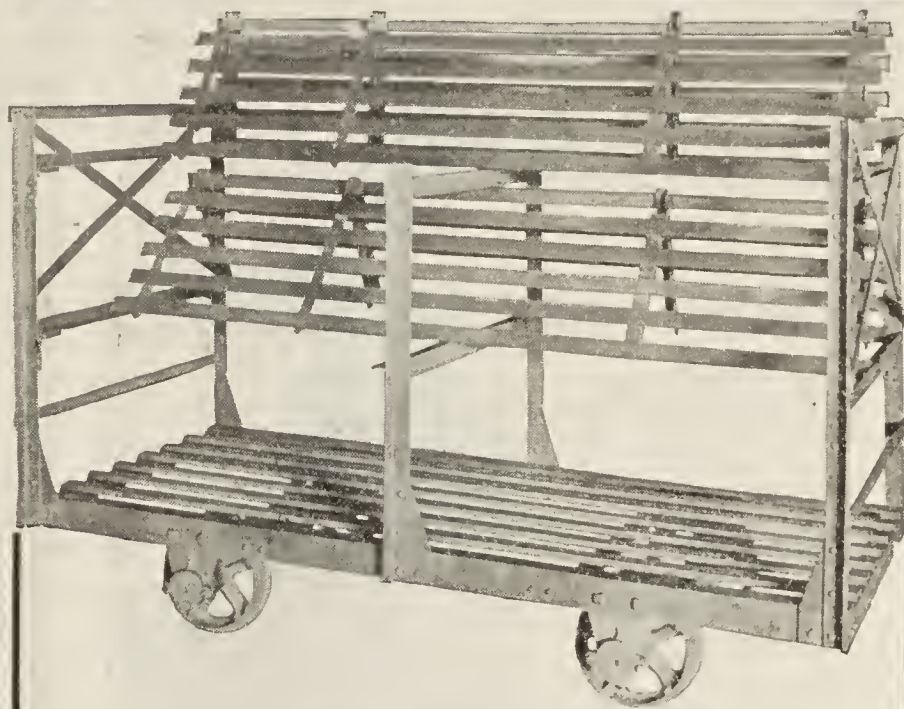
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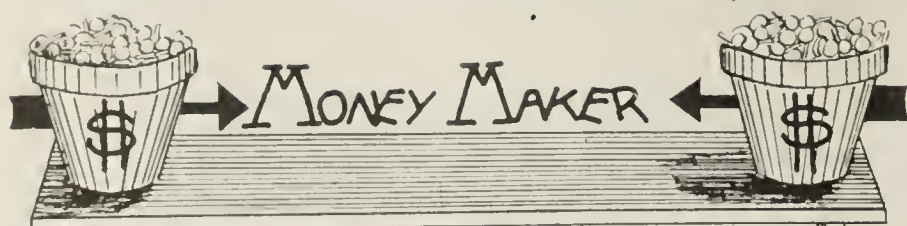
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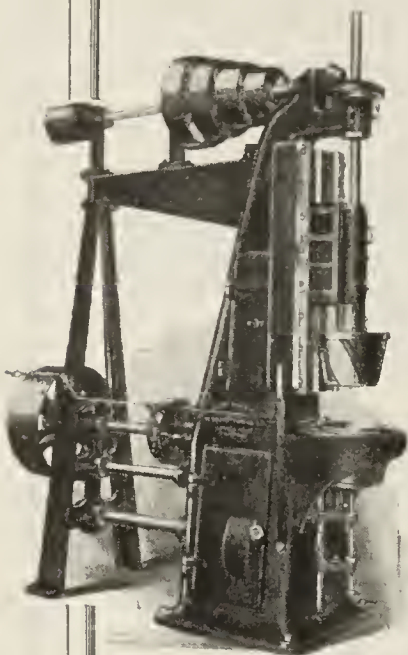
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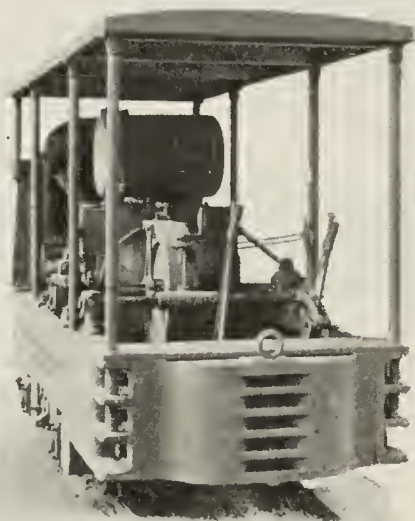
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No Brick Shortage in this Territory

Builders in the Twin Cities territory need have no fear of a brick shortage, according to John H. Donohue, Jr., of the Corning-Donohue Brick Co., St. Paul, Minn. Manufacturers and dealers in both face and common brick have prepared for the spring and early summer demands and new brick from the large producers of clay brick at Chaska will be on the market by May 1. Prices on face and common brick have not experienced the same proportional advance as have other building materials in this territory, it is reported.

Awakening Interest in Improved Highways

The first of a series of meetings of the Missouri Hard Roads' Association will be held in Jefferson City, April 9. This result was reached after a conference between Governor Gardner and M. V. Carroll, of Sedalia, Mo.; the latter is secretary of the association. Later meetings will be held at St. Louis, Kansas City, Joplin, Sedalia and probably other cities. The object sought is to awaken public interest in the adoption of the proposed amendment to the Missouri constitution submitted by the last legislature, authorizing the issue by the state of \$60,000,000 of bonds for the permanent improvement of the public highways.

Looking Into Stabilization Plans

St. Louis manufacturers of clay products are interested in the movement to definitely stabilize prices for the present building season. Several St. Louis investors connected with construction are of the opinion that guaranteed prices thru-out the building supply industry would be the means to solve the present housing problem and to dispel the fears of prospective investors that supplies will be prohibitive once the building season is under way.

It is said that brick manufacturers may be the first to inaugurate such a move in St. Louis, for they did much to stimulate building at the close of the war by announcing a reduction in the price of common brick while at the same time manufacturers of other building materials were either increasing prices or holding steady to prices then prevailing.

As far as St. Louis is concerned this is the only cloud on the horizon, for, according to present indications, the season will be one of the few in which labor trouble was not a big factor. All wage issues have been satisfactorily settled and the only concern of contractors in this regard is to get sufficient men to handle their jobs.

✻ ✻ ✻

It is reported that a machine for the manufacture of pressed brick has been installed near Fallon, Nev., by C. P. Whitney and Fred Olzog.

Hollow Tile Orders Keeping Plant Busy

Among the active and prominent concerns in the clay products industry in New Jersey is the Philips-Harper Co., Trenton, N. J., and this organization, under the able guidance of Wilson A. Philips, is planning for big activities during the forthcoming spring and summer building seasons. The company's hollow tile plant at Hightstown will be operated at capacity and large orders for this popular material are expected to ensue. The company handles "everything in burned clay"—this is its motto, and the long list of products includes face brick, common brick, fire brick, terra cotta specialties, paving blocks, drain tile, sewer pipe and many other commodities. Recent contracts include about 50 carloads of hollow tile for two large apartment houses at

Atlantic City and a good quantity of brick for an addition to the plant of the Ingersoll-Trenton Watch Co. on Monmouth Street.

Paragon Brick Co. Locates at South River

The proposed new brick manufacturing plant of the Paragon Brick Co. of New Jersey, Elizabeth, N. J., recently incorporated with a capital of \$200,000, will be located at South River, in the Raritan River section of the state. Plans for the works are now being drawn, and it is expected to commence active construction at an early date. George Schmidt, Jr., 207 Broad Street, Elizabeth, is president of the company. Others interested are Albert C. Bender, Herbert S. North and Clinton Gilbert.

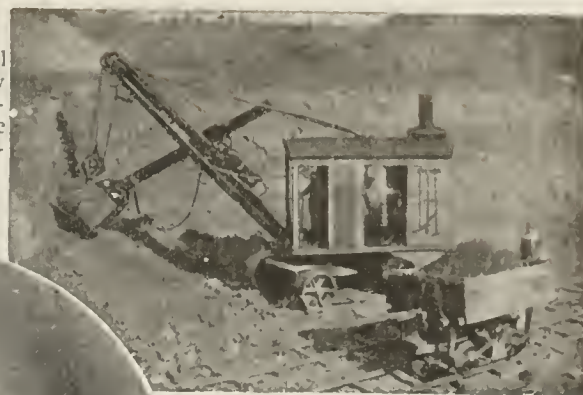
Make Ready For Record Breaking Season

Brick plants in the Trenton and Hackensack districts of New Jersey are making ready for spring production. The next few weeks will bring about a decided contrast in the "quietude" which has been prevailing in these sections during the winter months; and these have been hard winter months, for the severity of the weather has allowed no opportunity for work of any kind worth mentioning; even preparatory movements towards forthcoming production have necessarily had to be curtailed. At Trenton, the Trent Brick Co. is planning for an active season, as is also Donahue & Nolan; these are two of the largest and prominent producers in the city limits. The Independent Brick Co., with plants at Bordentown, is far in the lead as regards output, and has been operating its main works thruout the winter period. The Hackensack producers who will soon commence manufacture with their seasonal yards include Henry Gardner, in the Little Ferry district; the Hackensack Brick Co., and I. E. Gardner. With the big demand prevailing for common brick and the existing high price range, it is expected that every effort will be made to show "record breaking" output in 1920.

1920 Figures Make Eight-Fold Advance

Newark, N. J., is coming along in fine fashion in construction activities. Even with heavy winter weather, those intending to build have not been waiting but rather making the most of every day. The result is that records are showing up brightly and "putting to shame" the corresponding weeks of a year back. During the second week in March, the total valuation of plans filed was \$421,696, as compared with \$63,622, for the same week in 1919—almost seven times greater. House construction is an important feature of operations, embracing both apartments and dwellings; common brick and face brick are being used in vast quantities for this work, for this material enjoys great popularity in this district. Factory building is not far behind, either, and a goodly number of projects of this nature are under way, with many more to come. As an idea of the accomplishments of the city in construction operations, it is interesting to note that since the beginning of the year the valuation of work actually placed under way totals \$3,182,235, as against \$369,335 for the first two months of 1919, or more than an eight-fold advance. This is made up of \$1,882,108 in January and \$1,300,127 in February, and despite the fact that these months have been fraught with severe winter weather. In February, the new buildings of brick and other fireproof material aggregated \$1,076,360 in valuation. A project worthy of more than casual mention is the new housing corporation now being organized under the auspices of the local Board of Trade; the organization will have a capital

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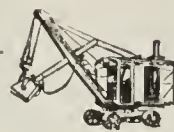
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"During the past year we have moved approximately 50,000 cu. yds. of slate shale with our ERIE Shovel. It is a wonderful machine, ideal for our work, as it is easily moved.

We find it very economical and inexpensive. We are very much

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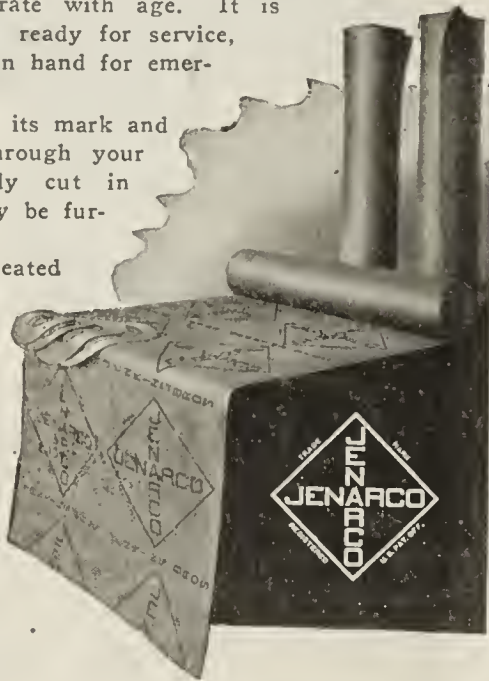
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For high pressure, superheated steam service, use Jenkins' Compressed Asbestos Jointing.



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It is obvious to any clay products manufacturer that Barium Carbonate added to the pug mill or to the dry pan will produce brick and tile that command a higher price. It will build up more business than an inferior product which is "off color" and marred by white streaks.

Barium Carbonate makes the salt glaze stick to sewer pipe.

We can show you how the appearance of your ware can be improved, and can give you names of clay concerns who are profiting today by the use of Barium.

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of \$1,000,000, and plans for extensive operations in home building thruout the city.

Many Raritan River Plants Inundated

Handicaps galore have been encountered in the Raritan River section of New Jersey during the past fortnight. Following heavy snows and rains, flood conditions ensued, caused by an overflow of the Raritan River at New Brunswick and other places. Many plants were inundated, causing many thousands of dollars loss in machinery, equipment and in other ways. With such a situation, production has been lessened in various lines of local industry, and the clay products branch is no exception to the rule. Conditions are being righted, however, and it is hoped to bring about a normal state of affairs at an early date. The clay miners are planning to resume more intense operations after the closed winter season within the next few weeks, provided that labor can be secured in proper quantity to make this possible. The labor situation is not of the best in this line; early in March, about fifty diggers at the clay properties of the National Fire Proofing Co., at Keasbey declared a strike with demand for an advance of 5 cents an hour in wages, or a total of 45 cents an hour, with 11 hours pay for 10 hours work. The company refused the request and discharged the men. At the Keasbey works of the General Ceramics Co., the new fused silica ware plant is now actively producing a complete line of standardized shapes and sizes of ware, and of high quality character. The main works of the company at this location is very busy in the manufacture of acid-proof chemical stoneware.

Little Change in New Jersey Prices

The demand for burned clay products and other building materials is keen in all parts of New Jersey. With the approach of the spring building season, orders in larger size and number are being received by the dealers, and the big question of the hour seems to be "Where is the material to be secured?" Common brick is well the leader in matter of call; big quantities are in demand, not only for current operations, but for forthcoming work, and prices still hold at high levels. Thruout the Newark district, the prevailing figure is around \$30 on the job, and really first grade material is hard to secure at this figure. The material for the most part is being furnished from the Hackensack district, for very little from the Hudson River section is now reaching these parts. In South Jersey there is no change in quotations, \$26, \$27 and \$30 on the job, seem to have settled down as the price to be exacted at this time. At Trenton, \$25 and \$26 brick is prevailing, and stocks are none too plentiful at the local yards; there is no shortage, however, and with the spring producing season about to be launched, it is expected that a level of a few dollars lower per thousand will be reached before the summer months. Face brick is coming along well in the matter of demand—far more so than in the matter of supply, for Pennsylvania yards have been greatly retarded in shipping, thru shortage of freight cars. There is little if any change in prices; first grade varieties are slightly over the \$50 mark, with grays and buffs continuing popular. Hollow building tile and partition tile are striving for higher levels; current prices at Newark for popular sizes, as 3x12x12 in. and 4x12x12 in. partition tile, are \$182.50 and \$205.00 per thousand delivered.

New Jersey Expecting "Big Doings"

In another fortnight, actual construction work will show decided impetus in New Jersey. With weather conditions.

severe enough to handicap any substantial progress in this direction during the past few weeks, it is only a case of waiting for "spring to burst" for the anticipated building movement. And this movement will be of no small proportions; evidence has been piling up in all parts of the state that "big doings" can be expected. The work for the most part will be of a character that is absolutely demanded, such as apartments, dwellings, factories and public buildings; speculative operations are being held in the background, for with high prices of building materials and uncertainty of the labor situation, investors for profits are holding aloof. The outlook for a fine spring building season is bright in practically every city or community of importance in the state—Newark, Paterson, Passaic, Jersey City, Hoboken, Morristown, Trenton and different cities in South Jersey have substantially the same story to tell—and they are going to tell it in an impressive way during the next months to come. Manufacturers know it and mason material dealers, as well, and these latter are giving serious thought as to the supply of commodities; the demand threatens to exceed the stocks to be secured and much concern is expressed by those prominent in the trade over the rather poor aspects. The one source of satisfaction is that the situation is not only local, for all parts of the east are "in the same boat;" that production will have to be speeded up is unquestioned, and that it *will* be enhanced is almost certain—the ingenuity of the burned clay products manufacturer and other producers is sure to find a way. This improvement plus better freight conditions will go far to solve the problem.

Bricklayers Strike Lessens Buying

The common brick market in New York has passed thru rather a quiet fortnight, as compared with the activity which has been going on in this direction. The direct cause may be attributed to the bricklayers, who are still out on strike, and this situation has resulted in curtailing actual operations to a great extent, with consequently lessened buying. The price is holding firm at \$25 a thousand wholesale, alongside dock, and current distribution is about equally divided between Manhattan and Brooklyn boroughs. The next few weeks is expected to bring about a large increased demand, materially reducing the stocks of local dealers; the quantity on hand in this quarter is sufficient for all immediate and anticipated requirements; the present price, delivered on the job, is \$30.45. There are no established quotations on second-hand brick at the present time, but the price is fluctuating around \$45 for loads of 3,000. Face brick is fetching from \$37 to \$50, and in certain cases, upwards, on the job.

Reports Active Trade in Face Brick

The Hay Walker Brick Co., New York, reports an active trade in face brick, and is optimistic as to the general outlook for spring and summer activity. The company is an important factor in this market and its operations are of extended scope. Recent contracts include a number of prominent structures and among these is the biggest job for face brick in New York at the present time, namely, the twenty-four story office building at Madison Avenue and Forty-third Street, a project of the Christian Science Church, requiring 1,500,000 face brick, these to be of gray, rough textured; the William J. Taylor Co. is the contractor. Other notable work embraces an addition to the A. J. Namm & Son department store building in Brooklyn, requiring 150,000 smooth gray face brick; an addition to the Bush Terminal Building, Forty-first Street, New York, Helmle & Corbett, architects, and the Thompson-Starrett Co., Contractors, calling for

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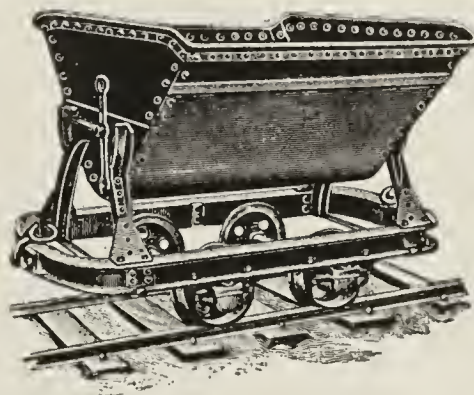
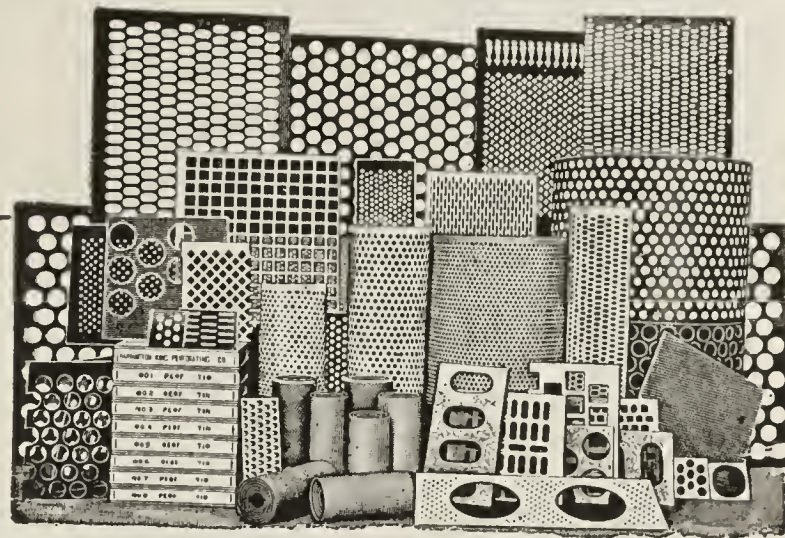
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Are you acquainted with Biehl line of Dump Cars and Buckets, Dryer and Platform Cars, Steel Car Wheels, etc.?

Users say they are dependable for long life and lower maintenance cost.

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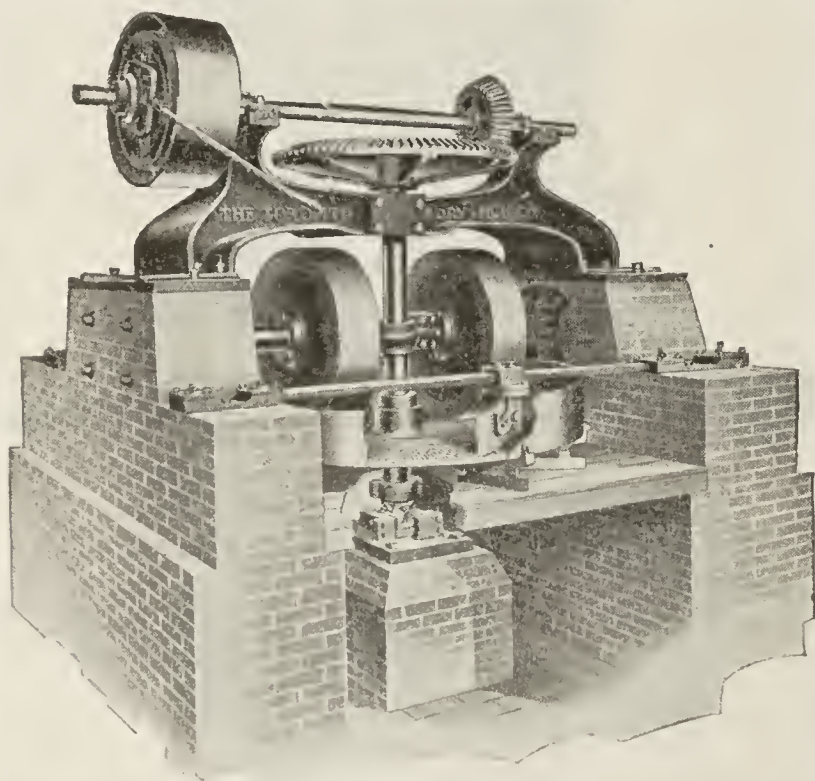
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Complete Drying Equipment
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For Grinding Wet, Semi-Dry and Dry materials. Made in sizes adopted by the best judges. We are in position to solve your grinding problems.

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8, 9 AND 10 FOOT PANS.**

Write for Descriptive matter and prices on Pans Also Bulletins on Sewer Pipe and Tile Presses, Elevating and Conveying Machinery, Trucks, Barrows and other equipment for the clay products manufacturer.

THE TORONTO FOUNDRY & MACHINE CO.
Toronto, Ohio

200,000 smooth gray brick, and an addition to the New York University, requiring 200,000 face brick.

New York Gets Ready For Spring Building

A big spring building season is in prospect at New York, and the city is getting ready for it. With unabated call for houses and apartments, in fact, dwellings of all kinds, office space and factories, there can be but one answer—BUILD, and that's just what the different boroughs are going to do. The prospects in sight are most encouraging, and if the labor and material markets can be stabilized to bring assurance to builders and investors, the volume of work which will be launched will be nothing short of staggering. Those in the trade who are keeping in close touch with the situation are very optimistic; they are laying plans for extensive activities and do not expect to be disappointed. During the month of February in Manhattan Borough, plans were filed for 28 new buildings, representing a total valuation of \$9,933,500, as compared with 16 buildings during the corresponding month of 1919, valued at \$3,978,200. The substantial increase in operations is all the more noticeable, when the first two months of the present year are considered, as against the same period of last year; in 1920, plans for a total of 73 new structures were filed, costing a total of \$23,977,500, while in 1919, plans for 32 buildings were recorded, valued at \$5,129,250. That this is "stepping" in the right direction is certain. Brooklyn Borough is showing a keen interest in new homes, and a large number of projects of this character are in view. In Queens Borough the industrial advancement is marked; rapid strides are being made in this direction, and numerous activities are forecasted for the coming seasons. In the Bronx, apartments and dwellings are receiving attention, and many millions of dollars will be invested in buildings of this kind in this section.

Creek Overflows, Brickyard Flooded

As a result of the Conneaut Creek overflowing its banks following an ice jam on March 12, the grounds of the United Brick Co., Conneaut, Ohio, and a large section of adjacent low land are covered with three feet of water.

Brick Paving Jobs to Be Let

The Ohio Highway Commission will open bids March 26th for a number of road improvement projects, among which will be some brick paving jobs. Among the brick jobs are a stretch of 2.69 miles in Lorain County; 2.99 miles in Paulding County; 3 miles in Wayne County, and another stretch of 4.08 miles in Wayne County.

Cincinnati Concern Books Nice Contract

The D. C. Shorey Brick Co. of Cincinnati, Ohio, recently received a contract to furnish 250,000 Shor-Tex face brick for the LaFayette Hotel building to be erected at Lexington, Ky. and 75,000 of the same kind for the new Christian Church to be built at Lawrenceburg, Ky., delivery to be made immediately.

Adds New Popular Line to List

The R. L. Queisser Co., Cleveland, Ohio, has added another new line to its list during the past fortnight in the large shale builder of the Kline Brick Co., Nottingham, Ohio. There is already a big inquiry for this new line, according to Queisser officials, and it is expected it will take the place of the common mud brick to a considerable extent in the Cleveland district.

Paving Brick Plants Working Full Tilt

According to manufacturers and agents of paving brick in Ohio, the outlook for the present year is very bright in every respect. There are a large number of street and road improvement jobs pending, a few of which have been awarded. Shortage of cars is the principal drawback to a more active movement of pavers. All of the paving brick plants in Ohio are working to full capacity.

No Slack in Demand for Commons

The demand for common brick in Columbus and central Ohio territory is strong in every respect. Prices are advancing and range from \$23 to \$26 per thousand and in some instances even higher. All of the yards in Columbus and vicinity are working at full tilt, or at least as strong as the labor situation will permit. Despite the stoppage in work on the part of bricklayers, there is no falling off in the demand for common brick.

Face Brick Output Sold Three Months Ahead

Face brick demand in Ohio territory continues to be active in every way. Most of the factories are sold for about three or four months ahead and are making strenuous efforts to increase their output. Due to shortage of labor and a rather high labor turnover the output of the Hocking Valley plants in Ohio range from 60 to 70 per cent. of capacity. Face brick prices are firm and every change is towards higher levels. There is a slight improvement in the car supply and as a result shipping is now better, but it is not what might be desired.

Bricklayers' Strike Still Unsettled.

No settlement of the difficulty between the Material Dealers' Association of Columbus and the Bricklayers' Union has been made. Practically all of the bricklayers are idle. With unfavorable weather prevailing there has not been any great loss on the part of contractors and builders. Coupled with the immediate trouble is the efforts of the Bricklayers' Union to negotiate a new scale starting April 1st. Their demands are \$1.37½ per hour.

In order to help their cause, in the fight against the Columbus Bricklayers' Union, about a dozen of the younger brick contractors of Columbus have voted to lay up brick on jobs where the owner wants the work carried on in order to have the structures roofed. Several such jobs were being pushed in Columbus and at a meeting of the recently formed Brick Contractors' Association, the younger men who are all skilled bricklayers, decided to carry on the work. This will require several weeks and many of the owners will be satisfied to leave the controversy proceed to its natural solution.

New Forest Grove Organization

The Forest Grove (Ore.) Clay Products Co., has been incorporated by J. B. Finnigan, A. T. Lewis and Jessie Withycombe. The capital stock is \$25,000 and headquarters will be maintained at Forest Grove.

Enterprise Brick Co. Granted Charter

A charter has been granted the Enterprise Brick Co., at Johnsonville, S. C. The company is incorporated for \$10,000 and the officers are: J. W. Williams, president and treasurer, and A. R. Lane, vice-president.

WATERBURY WIRE ROPE

WIRE ROPE LAYS

THE lays of Wire Rope are known as Regular and Lang lay.

In the Regular lay of rope, the strands are twisted in one direction and the strands laid in the opposite direction.

In Lang lay rope, for wire rope, the strands are twisted in the same direction.

Lang lay rope is more readily twisted than Regular lay rope. It is especially adapted to use in terminal work and great action.

Lang lay rope is usually confined to non-reversing operations. Inquiries for Lang lay rope should best be submitted to this office for a speedy attention.

Lang lay rope, also left hand lay rope corresponds to a left hand screw of long pitch. Left hand lay rope is used in elevators and places where the left hand lay rope to which the right hand lay rope is offset by the

Suiting the lay to the use

In wire rope lays, "Warrington," "Seale," "Lang," "Left"—every variation from "Regular" lay—has a good reason for its proper use.

Waterbury wire rope—whatever the lay (for it is made in all of them) has the best reason for its use—quality, quality of material, quality of workmanship—the Waterbury quality that is in every rope, wire or fibre, made by the

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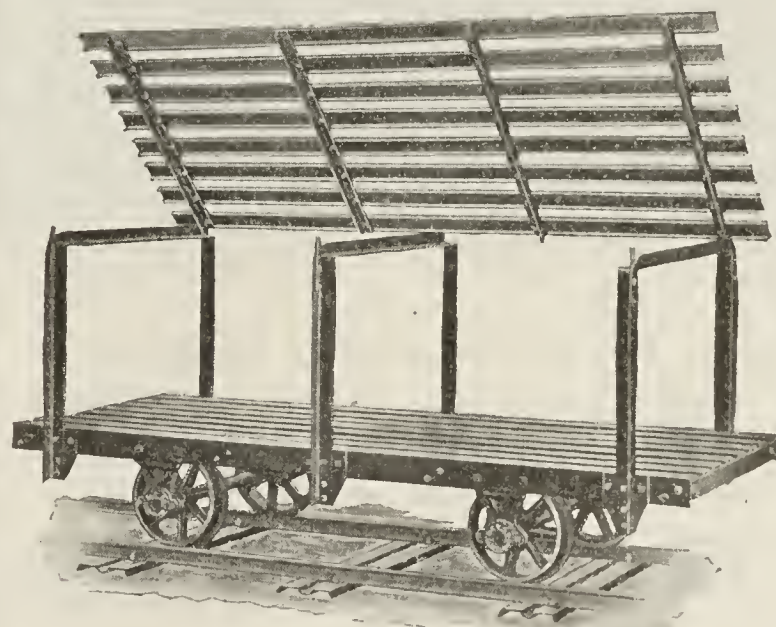
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NEW ORLEANS

*See pages 14, 24, 25 and 26 of the Waterbury Rope Handbook, for details of these various rope lays and their advantages. All the information on rope you could wish for is there—and you may have a copy for the asking. (2366-W)



Lakewood Double Deck Car No. 167

The Robinson—LAKEWOOD LINE—
Dryer Cars; correctly designed, correctly
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Automatic and Truck Systems

The Philadelphia Drying Machinery Co.

Stokley St., above Westmoreland

Philadelphia, Pa.

One of the kilns at the plant of the Ochs & Frey Brick Co., Eighth and Race Streets, Allentown, Pa., was destroyed by fire March 5. Prompt action prevented the flames from spreading, and the loss was nominal.

Hatton Brick Co. Recently Incorporated

The Hatton Brick Co., Philadelphia, Pa., has been organized with a capital of \$20,000, to engage in the brick manufacturing business in this section. M. A. Pile heads the organization.

Want Brick for Road Improvements

The commissioners of Allegheny County, Pa., it is understood, are in favor of making extensive road repairs with brick instead of using the tar composition. If they definitely decide to do so, it is said, 1,000,000 brick will be ordered for immediate requirements.

Charter Granted Algood Brick Co.

The Algood Brick Co. of Putnam County, Tenn., has been incorporated with a capital stock of \$6,000. The incorporators are A. P. Pointer, J. T. Moore, Fred L. Moore, J. B. Davis, J. P. Terry, J. A. Butler and H. M. Judd.

A New Texas Incorporation

The West Texas Face & Common Brick Co., has been incorporated at Wichita Falls, Tex., with a capital of \$150,000.

Brickfaced Tile to Be Made in Seattle

The Superior Brickfaced Tile Co. has been incorporated at Seattle, Wash., with a capital of \$250,000, by A. S. Leeper, R. A. Snider and F. A. Read.

Wheeling Men Incorporate at \$350,000

The Evansdale Clay Products Co. has been incorporated with a capital of \$350,000 by Otto Schenck, H. W. Campbell and C. Freiderwickson, all of Wheeling, W. Va.

Menominee Plant to Reopen

The Menominee Brick Co., of Marinette, Wis., which has been closed for some time, is planning to resume operations soon. The plant has been taken over by Fred M. Prescott, formerly of Milwaukee, and E. P. Smith, who will operate it at capacity.

\$50,000 Incorporation at Laramie

Laramie Pressed Brick & Tile Co. has been incorporated at Laramie, Wyo., with a capital stock of \$50,000. The directors of the new company are J. P. Markley, John Schrader, J. C. Fitterer, H. N. Roach and W. B. Maxwell.

With Our Canadian Neighbors

Bird's Hill Sandstone Brick Co., Ltd., Bird's Hill, Man., have changed their name to the Woods Brick Co., Ltd.

The Port Credit (Ont.) Brick Co. intends building additional kilns this spring.

The Tilbury Brick & Tile Co.'s plant at Tilbury, Ont., one of the largest and best equipped for manufacturing tile in the province, was destroyed by fire on March 4. The fire started in one of the hot air drying rooms. The estimated loss is \$30,000 with \$15,000 insurance. Harry H. Hallatt, president of the company, states that the plant will be rebuilt at once.

MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories
and Detailed Announcements that Our Ad-
vertisers Believe Will Interest Our Readers

The Bucyrus Company Announce a New Shovel

The Bucyrus Co., South Milwaukee, Wis., have recently announced a new revolving shovel, known as the 30-B, which supersedes their 18-B $\frac{7}{8}$ yard revolving shovel.

The 30-B is in fact a universal machine, inasmuch as it may be used as a revolving shovel; or, with the addition of a few extra parts, as a dragline excavator, a clam shell excavator, a locomotive crane, a sewer shovel; or, with a long boom and dipper sticks, for work requiring unusually high lifts. It is so designed that these changes may be made with the minimum of labor, delay and expense.

In designing a steam shovel to combine so many features, there has always been the danger of attaining this universal scope of usefulness by sacrificing somewhat the power, the speed or some other necessary functions which are essential for a machine built solely for any one of the above mentioned combined purposes. For instance, it has always been difficult to combine a revolving shovel into a dragline excavator without attaining this feature at the expense of the digging power of the machine when employed as a dragline excavator. After a thoro study and exhaustive tests, this problem has been successfully solved by the Bucyrus Company and the 30-B is offered as a machine which is 100 per cent. efficient in any of the above mentioned functions.

AS A REVOLVING SHOVEL

As a revolving shovel it carries a 1-yard dipper struck measure. When heaped up, this capacity is about $1\frac{1}{4}$ cu. yds. Its truck frame is so designed that it will accommodate caterpillar traction, traction wheels or railroad trucks of any gauge from 3 ft. 3 in. to 5 ft. These three mountings are absolutely interchangeable. Such a change can be made in the field at a very small expense. The working weight of the 30-B shovel on caterpillars is about 34 tons, on traction wheels, 31 tons, and on railroad trucks $29\frac{1}{2}$ tons.

In weight and power, it is an ideal shovel for the average run of excavation work. It has sufficient ruggedness and possesses ample power for work in clay pits, rock quarries, for mining and stripping operations and in fact for almost any class of work ordinarily encountered by a shovel of this type.

FOR HIGH LIFTS

It often happens that an exceptionally high lift and reach are necessary and cars must be loaded from deep excavation or for special work of some character. To fulfill this demand, a 26 ft. boom and 17 ft. handle may be purchased.

NEW FEATURES

The design of this shovel contains a large number of new and improved features, based on many years of experience with all types of excavating machinery, in every description



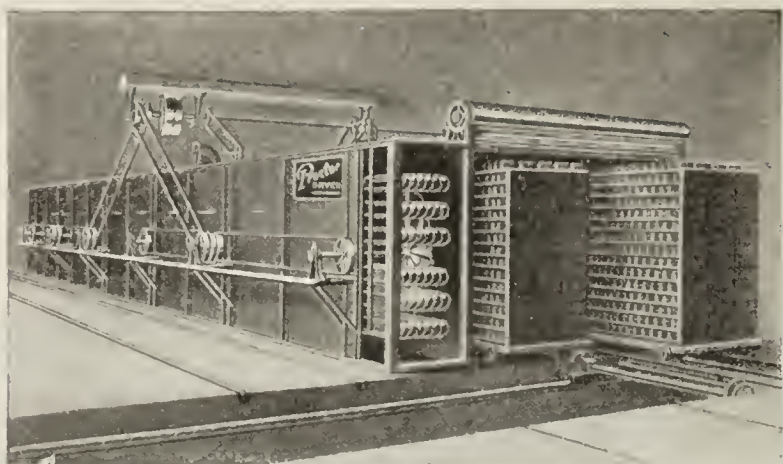
The Long Reach of the New Model Is Well Illustrated Here.

"The S S S Special" Automatic Soft Mud Brick Machine



WE manufacture the most complete line of Soft Mud Brick Machinery in the world and can meet the requirements of any size yard, from the smallest to the largest. Let us quote you on your new machinery.

The Arnold-Creager Co.
New London, Ohio



THE PROCTOR DRYING MACHINE

For Face Brick, Fire Brick, Paving Brick and similar materials

The Proctor Dryers are installed under the strictest kind of a guarantee, a guarantee in which we assume the entire responsibility for the quality and quantity of material turned out by the machine.

For more than thirty-five years, we have made the building of drying machines our specialty, and the manner in which we stand back of our guarantee can be attested to by any of the 3,000 concerns to whom we have sold during that time dryers for various purposes.

The Proctor Dryer contains nothing experimental, but is an unqualified and demonstrated success which we have proved will do more and better work at less cost than any other device for the purpose.

Philadelphia Textile Machinery Co.

Drying Machine Specialists

PHILADELPHIA, PA.

CHICAGO

CHARLOTTE

NEW YORK

PROVIDENCE

HAMILTON, ONT., CAN.

"Proctor"
DRYERS

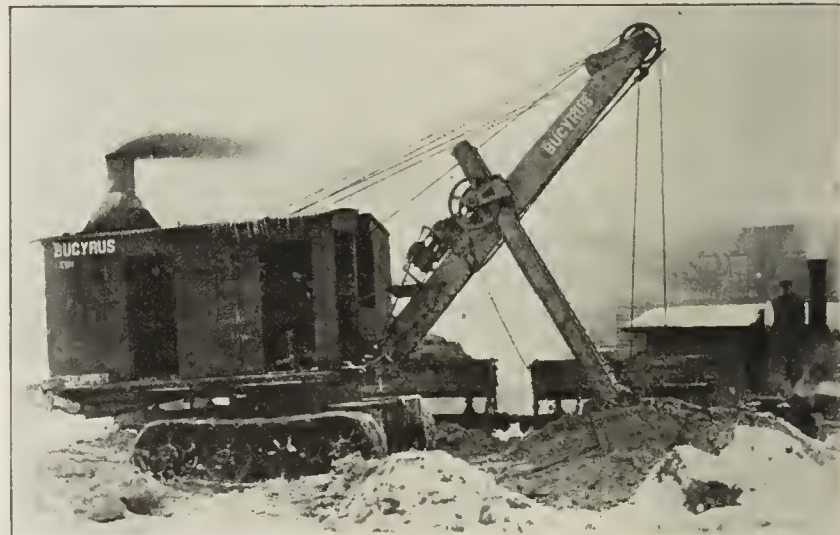
of work. These features embody an extremely rigid construction thruout, an improved steam plant, engines and machinery firmly anchored and so arranged that they may be easily taken care of, a simplified operating lever arrangement, and careful attention to details such as convenience and ease of operation, accessibility and a great reduction in the number of working parts.

CATERPILLAR TRACTION

The Bucyrus Co. has always maintained that caterpillar traction is the logical mounting for all small and medium sized shovels and dragline excavators and emphatically recommends that the 30-B be purchased thus equipped for any work, except that which requires a very small amount of moving about and a spasmodic output.

Caterpillar mounting for excavating machinery is not a new thing. The Bucyrus Co. for many years has profited by the field experience of a large number of steam shovels and dragline excavators thus equipped. This type of mounting has been so successful that it is now an exception that a small shovel or dragline is sold with any other type of mounting. The saving of time and labor effected is exceedingly great. It makes it possible for a shovel to move readily from one part of a job to another without calling upon the services of a large number of pit-men to lay planks and to prepare the way. It enables the shovel to do a small amount of excavation in one part of the job and then to quickly move to another and dig there. It may back away from blasts without loss of time and it can operate in flooded pits where ordinarily the entire plant would be idle. Furthermore, it can travel over muddy ground and climb steep grades with the greatest ease.

The 30-B caterpillar mounting has no complicated side frames. It is to be noted that the use of chains in the driving mechanism has been completely eliminated. Driving is accomplished thru direct gearing. The elimination of the



Bucyrus 30-B Shovel With Caterpillar Traction

caterpillar frame, not only adds to the simplicity and the strength, but permits easy access to the rollers, links and tumblers for purposes of inspection and maintenance. The machine may be turned easily in its own length and possesses high tractive power. The manufacturers have recently issued Bulletin No. C-301, describing the 30-B in detail.

✱ ✱ ✱

The Weller Manufacturing Co., Chicago, Ill., are now represented in the Southeastern States by Mr. H. Deverell, 1401 Lexington Building, Baltimore, Maryland.

Mr. Deverell was formerly head of Deverell, Spencer & Co. He is a competent engineer and is well equipped to take care of any elevating, conveying or power transmitting problem submitted to him.

✱ ✱ ✱

The Biehl Iron Works, Inc., Reading, Pa., announce that John A. Black has severed his connections with their corporation and Herbert N. Bell has been elected president. They have also added to their staff a capable engineer, Mr. R. C. Laros, for many years engineer with the Easton Car and Construction Co. The same courtesy and service, which have been rendered in the past will be continued and future inquiries will have prompt attention.

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BRICK and CLAY RECORD

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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To

decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

The Blow Dealt "Open Price"

A DECISION of far reaching effect has just been handed down at Memphis, Tenn. It is the case against the "open competition plan," a statistical auxiliary of the American Hardwood Manufacturers Association. The government had applied for a preliminary injunction to restrain the association from further exchange of sales, stock and production reports. Judge John E. McCall in an adverse decision (so far as the manufacturers were concerned) held such service as illegal under the Sherman Anti-Trust Act. It has long been known that a strict construction of the Sherman law would leave a very narrow field for the activities of modern business organizations. Its principles, however, have in this case received a more extreme application than in any preceding case.

Following the decision of Judge McCall, C. B. Ames, Assistant to the Attorney General, issued a statement from Washington placing organizations exchanging trade information in the same class as "trusts." The Department announced that it would proceed against all commercial groups conducting operations similar to the hardwood lumber manufacturers.

Needless to say, the lumbermen, thru Attorney L. C. Boyle and associate council, have already arranged to appeal from the decision of Judge McCall and carry the case to the United States Supreme Court in the event that the Court of Appeals sustains the Memphis judge.

It is a well known fact that many of the clay products manufacturers' associations are operating upon the open price plan. Similar organizations and countless other branches of industry are also using this plan which is a custom of long standing and has stood the test of legal fire in various state courts.

The injunction which Judge McCall has allowed is of the most repressive character. Under paragraph "B" for instance, the "con-

spirators" can no longer compile, print or distribute reports of stock on hand, or reports of production by periods, or reports of the prices at which sales have been made.

It is clear from the language of the injunction that two or more persons having an interest in the price of any product cannot by joint action take steps to inform themselves regarding the price at which the product is being sold, or the rate at which it is being manufactured, or the amount of supply available in the markets, because this information might influence the prices which they themselves might ask for their product. The "American Lumberman," in commenting upon it, says that this is a fair and impartial statement of the matter specifically embraced in the four corners of the present injunction.

There is no question but that the decision opens a new epoch in the judicial warfare waged against American business. It is well known that the Sherman law has never been enforced to its extreme limit. It has been lying dormant or only partially aggressive for some time. It was totally disregarded during the war. It seems now, however, about to be revived and perhaps it is just as well, as it may arouse American business to a realization of the menace of the law as it is at present being interpreted. In this way it may lead to its being legislatively restricted to the actual evils against which the law was intended to be used.

In the meantime, Attorney Boyle has said: "The industry (and for that matter, others, we may add) should not be disturbed by Judge Ames' statement that the decision of Judge McCall clearly establishes the law in the case. As a matter of fact, the law in the case will not be clearly established until after the Court of Appeals and the United States Supreme Court pass upon it.

"Meanwhile, of course, the operation of the plan will be suspended. We are confident the higher courts will not sustain the decision of Judge McCall since it strikes so vitally what we conceive to be wholly proper organization

activities. But, of course, now that the Department of Justice has started this action, it is important that the hardwood association **and every organization having a similar plan**, know exactly what it can do under the law. It is for this reason that every effort will be made to expedite the appeal of the case up to the highest court."

* * *

The Hand Writing on the Wall

ANOTHER BIG INDUSTRY is about to bid farewell to public favor and wind its weary way to join that mournful company of "has beens" long passed off into oblivion. This is the great lumber industry.

The Forester of the Department of Agriculture stated in his annual report recently that the rate of depletion of forests in this country is more than twice, probably three times, what is actually being produced by growth in form serviceable for products other than firewood. Already the supplies of all the great eastern centers of production are approaching exhaustion, with the exception of the South, and even there most of the mills have not over ten to fifteen years' supply of virgin timber. Already southern pine is being withdrawn from many points as a competitive factor and its place taken by western timbers.

It is seen, therefore, that present high prices of lumber are not wholly due to increased cost of production. An important factor is the ever-retreating sources of timber supply. Furthermore, the turning to western woods results in added freight charges which the consumer must pay.

While the growing scarcity of lumber is having its influence upon prices, prices on the other hand are having a strong influence on the use of lumber in building construction. In conversation with a building material retailer in the Middle West recently, particularly with regard to the present price of lumber, he said that prices on many grades are wholly out of line with the utility of the material. He has handled lumber, together with other materials, for many years and he says that he does not know what the spring and summer will bring with regard to building construction.

The rise in prices of all kinds of lumber is making the claim for clay products construction that it is "equal in cost with frame," more truth than fiction. You can build a good brick or hollow tile home in most any section of the country today at the same price necessary for a frame building.

The lumber journals have seen the handwriting on the wall and are governing themselves accordingly. A St. Louis lumber paper carries a department in which it discusses so-called "side lines" including metal lath, composition roofing, shingles, and so forth. An "old guard" lumberman took exception to a recent article in this department on the ground that the journal he was reading was supposed to be for the lumbermen. The editor came back with a strong reply to the effect that the time had arrived for "broader vision" and that his paper intended to follow the dictates of wisdom in view of the changing times, rather than tradition.

The Hollow Building Tile Association has been using space in one of the leading lumber papers long known for its uncompromising advocacy of lumber.

These are all signs of the times. It is up to the clay products manufacturer to take advantage of them. A systematic, well-planned, carefully executed campaign should be launched to convince the several thousand lumber dealers thruout the country of the wisdom and expediency of handling clay products. Now is the time to strike.

It must not be forgotten that the lumber dealer will handle what is most profitable to him. He is not in business for his health. The selling of clay products should be made attractive for him. Here, however, is where many manufacturers "fall down." Let the clay products manufacturers of America provide the retailer with an adequate service charge and "dull times" will be forever banished from the history of the business.

* * *

Costs Still Going Up

ANOTHER ITEM of increase to be added to the burden of already heavy manufacturing costs, is that of an increase in

the price of coal. It was evident that something like this was coming. It was only a matter of knowing just how much.

The action of President Wilson's coal commission in granting bituminous mine workers a wage increase of twenty-seven per cent. recently, means the price of coal will advance from \$0.65 to \$1.25 a ton, according to bituminous coal mine operators.

The mine workers' representatives on the other hand, state that the new wage agreement only "involves \$0.25 a ton average increased expense."

A sort of silver lining, however, to this dark cloud is contained in a bill introduced into the Senate by Mr. Frelinghuysen recently. This bill provides for a preferential freight rate on coal shipped between April 1 to August 31, amounting to eighty-five per cent. of the schedule rate in effect on the date of shipment. This bill also provides for a rate of one hundred and fifteen per cent. of the schedule rate in effect on the date of shipment of coal from September 1 to March 31. This bill has been read twice and referred to the Committee on Interstate Commerce.

The average clay products manufacturer consumes the most coal between the first mentioned dates, that is, between April 1 and August 31. If this bill were passed, it would appear that some reduction in the cost of coal would take place during the spring and summer months. This, however, would be a small item and would not any way near offset the promised increase in the price of fuel.

* * *

Another Angle on the "Build Homes, Not Factories" Idea

THE SHORTAGE OF HOMES is still with us. It is just as acute as it was a fortnight ago. Progress is being made slowly. Taking into consideration the production lost during the war and the necessity of supplying current requirements, this country will have to build three million homes during the next few years.

A building materials retailer, when asked the other day as to the building situation in his

town, said that while the building of homes was comparatively at a standstill, present conditions did not seem to hinder large operations such as factory extensions, additions and new enterprises.

This is exactly the situation as was pointed out in the March 23 issue of **Brick and Clay Record**, in an editorial under the heading, "Build Homes, not Factories." We felt that in urging such a course many would not quite understand the aim and object thereof. Perhaps the editorial was not quite as clear as it might have been regarding the clay products manufacturer's welfare in such a move.

Building homes now instead of factories and industrial structures would not necessarily mean a loss of this business to the clay products manufacturer. It would simply mean the postponing until a more suitable time of such building. Many concerns are making additions and changes which are not exactly necessary. They could put up with their present quarters a little longer and thus release a large amount of material for home construction which is very badly needed.

For instance, in a certain Middle West city a large corporation doing a nation wide, if not an international business, is making some plant additions at an enormous cost, with the avowed intention and plan of charging off seventy-five per cent. of the cost of construction during the next few years. Their accountants say this will be necessary in order to have the valuation placed upon the company's books at somewhere near a normal figure.

There is no question but that the excess profits tax is largely responsible for many such projects. It is unfortunate that there is such a law on the statute books which tends to create "tax dodgers." The excess profits tax under the present situation is a menace to the welfare of America. It strangles business enterprise. It suppresses initiative. It puts a heavy burden on business and public alike.

Congress recognizes the urgent need for immediate repeal but does not know exactly what to substitute. It is not going to be easy to find means of taxation which will produce the results of the excess profits tax.

TIE UP BRANCHES *of* CLAY INDUSTRY *with* ONE BIG SLOGAN!

It is Suggested That All of the Various Clay Products Associations' Advertising Carry Somewhere in the "Copy", in Uniform Type, the Slogan "By Frost, Nor Fire, Nor Flood, Nor Even Time, Is Well Burned Clay Destroyed"

THE CLAY PRODUCTS manufacturing industry, tho it has many branches, is after all, *one big industry*. There is a common bond between the various individuals engaged in this business, as well as between the divisions.

In these days of specialization the various branches of the industry are fast becoming highly organized. They have their separate associations and all that goes with them, including cost investigation, the maintenance of trade ethics, freight rate adjustment, and comprehensive publicity programs.

In the heat of the battle of business, there is somewhat of a tendency to overlook "the tie that binds." For this reason it is suggested that various associations conducting advertising and publicity campaigns at this or any future time, should incorporate a common or uniform slogan in their "copy" which will impress indelibly upon the mind of the American public the enduring qualities of burned clay.

TWO ASSOCIATIONS ALREADY IN FAVOR OF IT

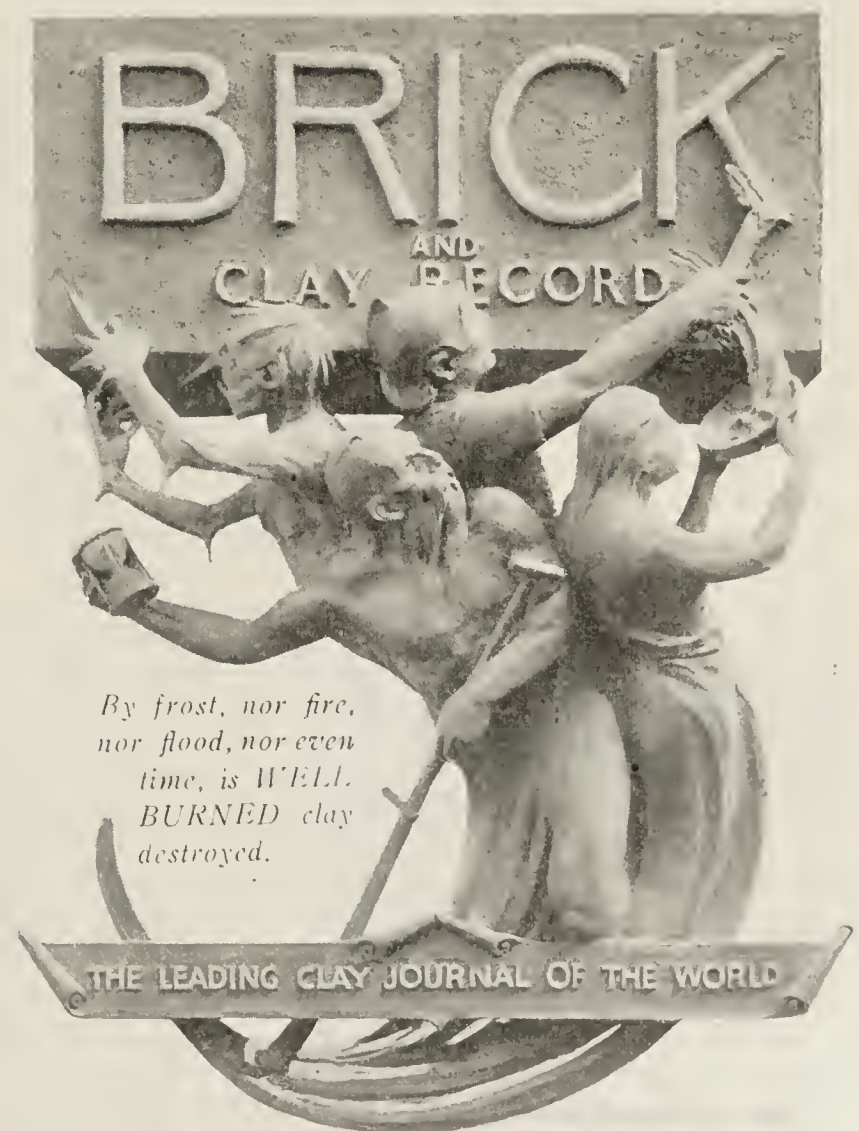
Many are in favor of such a plan. The Common Brick Manufacturers' Association, thru its secretary-manager, Ralph P. Stoddard, and the Hollow Building Tile Association, thru its secretary-treasurer, E. R. Sturtevant, have practically agreed to incorporate such a slogan in the association's advertising. The matter will also be presented in the due course of events to the National Paving Brick Manufacturers' Association, American Face Brick Association, Clay Products Association, and the other organizations in the clay products manufacturing industry, which are conducting or are planning to conduct advertising campaigns.

In connection with this plan, Secretary Sturtevant has already stated: "There is a widespread feeling thruout the clay products industry that some effort should be made to tie up the advertising efforts of all branches of the clay industry. The paving brick association is doing some national advertising, the face brick association, the hollow tile association, and the common brick association is about to do it, as well as the sewer pipe industry, and probably after they all get started the drain tile industry will fall in line to do it too.

"Now, all of us are making clay products. Some are using them for one purpose and some for another, but there is a very widespread feeling thruout the industry that we ought to tie up if we can, the efforts of all of them so that each of us gets a reflective benefit from every bit of advertising we are putting out. In our judgment it is all of benefit to the entire clay products industry. Every bit of advertising that the face brick people do is helping us and so on down the line, and we are working that way. The common brick

people and ourselves are ready to go ahead with it and probably will go ahead any way. I think the paving brick people will want to come in.

"An idea came to us the other day. A sculptor a few years ago made a clay model which *Brick and Clay Record* had photographed and used for its front cover in January, 1912. After he had finished the model the artist realized



Reproduction of Cover for "Brick and Clay Record" of January 1912, With Improved Wording from Which Idea of Slogan was Taken.

that it was so symbolical that many might miss its message, so he thought of a little wording which he wrote under the figures and which has since been revised to read: 'By Frost, Nor Fire, Nor Flood, Nor Even Time, is WELL BURNED Clay Destroyed.'

"Now it seems to us that if some statement of that sort could be put into every piece of 'copy' put out, and every piece of 'copy' that these other organizations put out, that you will be putting the idea of well burned clay over on the American people."

PAINT AND VARNISH MAKERS HAVE COMMON SLOGAN

In this connection it has been called to our attention, that the paint and varnish people have gotten together on this slogan, "Save the Surface and You Save All."

We believe the time is ripe to adopt a common slogan. One has already been suggested. As Mr. Sturtevant said, "They have never excelled some of the fine things that Shakespeare wrote and I don't believe that you are ever going to beat that particular statement."



Imports and Exports of Clay and Ceramic Products, New York

Statistics have been compiled by officials at the Port of New York, showing the imports and exports of clay and ceramic products during the month of January, 1920. The figures are as follows:

IMPORTS

CHINA CLAY: From England, 2,529 tons, value \$27,113; French West Indies, \$5.00. Total, \$27,118.

OTHER CLAY: From Germany, 433 tons, value, \$10,986; England, 1,978 tons, value, \$15,785; Cuba, \$30; Peru, \$10; and Panama, \$3.

PLAIN CHINA: Total, \$9,267. Principal imports from—Germany, \$5,672; Japan, \$1,096; Czecho Slav., \$1,082; England, \$786; and France, \$445.

DECORATED CHINA: Total, \$185,219. Principal shipments from—Germany, \$31,763; England, \$39,745; Japan, \$65,231; Hong Kong, \$4,510; Denmark, \$262; Ireland, \$433, China, \$7,432.

PLAIN EARTHENWARE: Total, \$11,390. Principal shipments from—England, \$5,848; Germany, \$3,588; Japan, \$1,882; and Italy, \$62.

DECORATED EARTHENWARE: Total, \$135,625. Principal importations from—England, \$115,604; Japan, \$10,138; France, \$1,698; Germany, \$3,458; Italy, \$1,238; Netherlands, \$1,482; Spain, \$1,363; and China, \$360.

OTHER EARTHENWARE: Total, \$13,265. Principal shipments from—England, \$11,420; Scotland, \$687; Netherlands, \$119; Germany, \$652; and Japan, \$242.

EXPORTS

BUILDING BRICK: Total, \$2,478. Principal shipments to—Danish West Indies, \$1,188 (66,000); Cuba, \$975 (60,000); and Venezuela, \$180 (3,000).

FIRE BRICK: Total, \$17,665. Principal shipments to—Philippine Islands, \$4,791 (25,000); Panama, \$627 (6,000); Mexico, \$525 (5,000); Cuba, \$7,223, (96,000); Danish West Indies, \$1,043 (15,000); Straits Settlements, \$1,750 (3,000); and Venezuela, \$252 (3,000).

FIRE CLAY: Total, \$1,019. Principal exports to—Cuba, \$480 (22 tons); Argentina, \$186 (12 tons); Danish West Indies, \$133 (6 tons); Japan, \$125 (5 tons).

OTHER CLAYS: Total, \$194. Shipments to—England, \$145 (4 tons); Mexico, \$19 (1 ton); Brazil \$30 (1 ton).

CHINAWARE: Total \$35,596. Principal shipments to—France, \$308; England, \$360; Colombia, \$2,808; Cuba, \$16,036; Peru, \$490; Venezuela, \$880; Portugal, \$248; Bermuda, \$214; Costa Rica, \$415; Panama, \$946; Mexico, \$737; Jamaica, \$3,140; Trinidad, \$753; British West Indies, \$370; Argentina, \$695; Brazil, \$335; Philippine Islands, \$3,421.

EARTHENWARE: Total, \$62,148. Principal shipments to—Cuba, \$20,854; Denmark, \$571; Sweden, \$1,000; Turkey in Europe, \$8,210; England, \$2,699; Honduras, \$676; Panama, \$15,031; Jamaica, \$1,895; British West Indies, \$1,396; Hayti, \$738; San Domingo, \$2,229; Brazil, \$943; Colombia, \$1,978; British West Africa, \$192.



Business Failures in February

Commercial failures in February were the lowest in number of any February of which there is record says "Dun's Review" of March 6, and it is necessary to go back to February, 1899, when about \$9,000,000 was reported, to find a lower indebtedness for the period. Commercial defaults were 492, against 569 in January and 602 in February of last year. The manufacturing failures of February numbered 132, of which 10 are noted as in the class, "Lumber, Carpenters and Coopers."



Building Trades Wages in Middle West

Building trades workmen in Chicago are better paid on the average than artisans in similar lines in most middle western American cities, concludes the Chicago "Daily News" after making a telegraphic survey of seventeen of the principal cities in its section of the country. Chicago building trades workers are receiving \$1.00 an hour. Nine of the seventeen cities are paying more for bricklayers and seven are paying a like amount. Carpenters receive \$1.00 an hour in Chicago and are getting higher wages in two other cities, Gary and Omaha, while in twelve cities they are paid less. Plasterers, structural steel workers, plumbers, gas and steam fitters, roofers and painters, as a rule, are receiving higher wages in Chicago than in other cities. Peoria and Detroit are paying bonuses to secure men. Gary scales are based on Chicago scales, altho premiums are being paid there for workmen. Carpenters at Cincinnati are striking now for \$1.00 now and \$1.25 on May 1; Toledo has a new scale effective April 1 with 25 per cent. increase; Omaha, which now pays carpenters, bricklayers and plumbers \$1.12½, has an increased scale effective June 1.

A number of the cities state that they have no labor shortage now in these trades, but expect one when big building commences in the next few weeks. Exceptions are Grand Rapids, Mich., and Toledo, Ohio, where it is said that there is a scarcity in all trades and it is difficult to employ men. Grand Rapids pays carpenters 90 cents, and bricklayers \$1.10. The "Daily News" bases all its figures upon the eight hour day, and presumably started its investigation because of the assertion of the Building Trades Council that the building trades workers in Chicago have been going to other cities to secure higher wages.



Gypsum Rate Case Reopened

Thru the efforts of Attorney Francis B. James, Washington, D. C., in behalf of the Hollow Building Tile Association, the gypsum rate case, referred to in a recent issue of *Brick and Clay Record*, has been reopened by the Interstate Commerce Commission. This will give an opportunity to present the hollow building tile manufacturers' side of the case in contention of the efforts of the gypsum interests to have their products placed in the brick list. The entire proposition is closely associated with the main freight rate case of the American Face Brick Association, the Hollow Building Tile Association and the National Paving Brick Manufacturers' Association, which is being handled by Mr. James and associated attorneys.

HOLLOW TILE MAKERS MEET *to* MAKE PLANS *for* 1920

Report of Past Year's Activities Shows Substantial Progress in Several Directions—Advertising and Publicity Program Well Under Way—Many Suggestions Made for Activity in Coming Year

IT IS BECOMING more and more evident that the more clay products manufacturers' associations accomplish, the less they seem willing to talk about it. Whether it is modesty, an abhorrence of publicity, or just a matter-of-fact attitude toward the big things that are going on in the various branches of the industry that is responsible for this reticence, is hard to tell. It is there nevertheless, and no more so than among the hollow building tile manufacturers who met in annual convention at the Hotel LaSalle, Chicago, March 24 and 25.

There was no big crowd, no brass band, very little oratorical effect, but just a business gathering of those interested in the welfare of the industry to consider the progress of the past year and to make plans for the future.

• GET LATEST NEWS ON FREIGHT RATE FIGHT

M. F. Gallagher, attorney for the joint traffic committee, comprising representatives of the hollow building tile manufacturers, face brick and paving brick manufacturers, made a brief report of the developments to date in the joint action against the railroads for a readjustment of rates.

CASE SET FOR MAY 3

"The case has really reached a point for action instead of words," said Mr. Gallagher, in opening his talk. "I have just deserted my associate, Mr. James, and several statisticians and rate experts in my office to come over and talk to you. The case is set, as suggested, for May 3, not far away, and

the final touches on the case are now being made. The case is being prepared by the attorneys, and the preparation will be completed for submission to the joint traffic committee on March 29, when it goes into session in Washington.

"The attorneys will outline to the Joint Traffic Committee all the evidence in the case, the propositions that we will seek to maintain and the rate structure that we will propose to the Interstate Commerce Commission. That will be subject to the consideration of your joint traffic committee, composed of nine members, three from each of the industries, and it will be subject to revision. We will thresh it out and endeavor to get it on a fair and proper basis. Then, on May 3 we will go to the mat with the railroads and their attorneys before the Interstate Commerce Commission.

A PROBLEM PECULIAR TO HOLLOW TILE

"Now the clay hollow building tile industry has one very vital problem of its own in this case, and that is the question of placing this commodity on the same rate basis as common brick, paving brick and face brick. Altho you may feel that this is a plain right of the industry, it is a fact that the railroads do not concede, and that in many parts of the country clay hollow building tile has a higher rate basis than brick. The Interstate Commerce Commission has in a number of cases given your commodity a higher basis of rates than brick. Now we are starting out in building a new rate structure for clay products for the country to establish a brick list, what we call a brick list made on scientific prin-



The Hollow Building Tile Association Directors Did a Good Job in Selecting a Successor to "Hal" Downer, who has been the Able President of the Organization for the Past Few Years, When They Selected H. M. Keasbey, of the National Fire Proofing Co. Mr. Keasbey is a Very Able Executive, Clear Visioned, Long Headed, and Aggressive. He is Shown in a Remarkable Pen Likeness on the Left.

James T. Howington, of the Coral Ridge Clay Products Co., was Selected as Vice-President of the Association for 1920. If Weight, Size and Good Nature Have Anything to do with Success, We Predict that Mr. Howington Will Be No Mean Factor in the Association's Welfare During the Coming Year.



ciples, and it will include your commodity, so that if we establish this brick list the structure of rates that is established will necessarily apply to every article on the brick list and grant them all the same basis of rates.

"Now the things to be considered in determining whether or not clay hollow building tile and brick should have the same basis of rates are the car loading, the value of the commodity in the car, the matter of loss and damage claims and whether the service rendered your commodity is substantially the same as brick. These are the points on which we need your cooperation. To furnish us information a questionnaire was sent to all members of this association, and twenty-four of those questionnaires have been answered. Now we have been supplementing those questionnaires with request for further information and we need all the information we can get. We need especially information on the average loading of your commodity per car. We need information on the amount of loss and damage claims which the carriers have paid to you in respect to your shipments. Now unless this information is comprehensive, unless it covers a great amount of shipments, it will not be satisfactory to the Interstate Commerce Commission. So we need the data.

WILL RECOMMEND SAME BASIS FOR TILE AS BRICK

"Now we have reached the conclusion and will recommend to the Joint Traffic Committee that your commodity is entitled to the same basis of rates as brick, and I am going to briefly give you some of the reasons. We have prepared a schedule which I am not going to read to you, just the conclusions, composed of all the statistics we could gather as to the shipments of clay hollow building tile, showing that in the year 1916, on shipments of 893,374 tons, the claims for loss and damage per car were 20 cents per car—the average—while the revenue was from \$50 to \$60. Those statistics put an end, it seems to me, to the general assertion that the carriers have been making, in many cases, that your commodity is a fragile commodity, and is frequently subject to breakage in transit. That is a statistical demonstration, not generalities, and it shows that the average claims per car are extremely low compared with many commodities carried by the carriers.

"Now we have prepared statistics on all shipments we could get showing your loading. This is another vital point. It may be claimed by the carriers that you do not load as heavily as brick. Now your loading compares favorably with brick, and averages approximately 32 tons per car, on the statistics we have gathered. Now in many cases the loading at certain plants is much heavier than that, but that is approximately the average. Now that compares favorably with the loadings of other commodities in the brick list, and so far as that argument goes you have as strong a claim on the brick basis of rates as any other article on the list.

"On the average value per carload you are one of the lowest. So you are strong there.

"On the service, we cannot figure out that the service to your commodity given by the railroads is not substantially the same as the service given to brick.

"So we feel that on the vital matters of loss and damage claims, loading per car, value per carload and service that you have a case, a strong case for getting into the brick list and staying there in all territories. In the South, where you now have class rates, in many territories in the West, New England, Pennsylvania, C. F. A. territory, we are endeavoring to prepare and establish a brick list here for the whole country, simplifying the rates that you have and placing them in that list, in all territories. Now this will be contested by the railroads. It will be contested vigorously, and there is where we need good strong witnesses, who know the facts, and who will back them up to appear at the hearing

and testify in behalf of your industry. The matter of the selection of witnesses will be taken up by the Joint Traffic Committee.

MINIMUM LOADING OF 30 TONS SUGGESTED

"Now, another vital problem in the case in which you are interested is the matter of minimum car loading in the tariff. If the Interstate Commerce Commission in this case establishes a structure of brick rates it will accompany the rates with a finding as to what should be shown in the tariffs as a minimum carloading. Now this is a matter that has not been finally passed upon by your Joint Traffic Committee, but in view of the fact that one of our contentions in this case is that brick and tile are heavy loading commodities and that the earnings per car per mile are large as a result of the heavy loading, it is important to go before the commission with a proposal for a minimum that is as large as the conditions in the business will stand. We have reached a conclusion that subject to revision by your Joint Traffic Committee, who know more about business and commercial conditions than we do, that a minimum of 60,000 pounds per car should be agreed to. Now the average loading in your industry is above 60,000. The average loading of face brick and paving brick is above 60,000. The number of cars that fall below that are exceptional, and we believe that the advantages of this high minimum in getting a fair and reasonable structure of rates are so great that they outweigh the disadvantages in exceptional instances of being required to load to 60,000, or to suffer a penalty in case you load below that figure. However, this minimum is subject, of course, to the proviso that it only applies where the car is on an adequate capacity for that loading. Where the capacity of the car is below 60,000 then the capacity of the car will govern.

"Now you have representatives on the Joint Traffic Committee that goes into session next Monday, and we expect to hear from them on this question of the minimum as to whether your industry can stand a 60,000 minimum, if it is to be applied to the brick list without serious inconvenience or disadvantage.

BRICK AND TILE RATES 25 PER CENT. TOO HIGH

"Now another great problem in the case is one of what is a fair measure of rates on brick. We have been asserting before you—I asserted it a year ago—that the rates on brick and tile were relatively too high, as compared with rates on other carload traffic. I knew a little about it then. I know more now.

"I am here to state that while the railroads seem to need greater revenue, in my judgment they should get that revenue from commodities that ought to bear it, and while I am not here to state what those commodities are, I will state that in my judgment brick and tile is not one of them. The reason is that our statistician, George W. Oliver, who was for nine years chief statistician of the Santa Fe Railroad, and who was employed by your Joint Traffic Committee, has examined all the statistics on earnings available, made as comprehensive a study as can be made by anybody representing the Interstate Commerce Commission, Railroad Administration, railroad or any attorneys for shippers. He has made as comprehensive a study as is possible from the figures available and he reaches the conclusion, as shown by his figures, that brick and tile rates generally are 25 per cent. too high. Now this is not a generality or a wild assertion, but it is based on this proposition that the Interstate Commerce Commission has said that brick and tile should not carry as high rates as the average of all freight, and today this study of brick and tile rates shows that they are 25 per cent. higher than the average of all freight. In other words, the earnings of the railroads from your traffic per car per mile, which is the test, are 25 per cent. higher than the average of all freight.

COMPARES EARNINGS FROM VARIOUS COMMODITIES

"Mr. Oliver has supplemented that with a comparison of the earnings on brick and tile with the earnings on specific commodities, and while the figures are hard to get, because they have not been separated by the railroads, so far as he has secured them they bear out the assertion and his general proposition that the rates on brick are generally about 25 per cent. too high. Now one reason for that is this, that on June 25, 1918, railroad rates in this country were advanced generally 25 per cent., while your commodity and brick took 40 cents a ton flat, or an average advance on all brick and tile rates of 52 per cent. under the figures as shown by our exhibits.

RATES MUST BE RELATIVELY FAIR

"Now I don't want to be optimistic. With the railroads clamoring for greater revenue, and wage demands of railroad employees running into many, many millions, it is a bad atmosphere to seek a reduction in rates, but the fact remains that these are the figures, and the fact remains that under the new railway bill rates must still be relatively fair and relatively unreasonably high rates are still unlawful. The commission is there to make relatively fair rates, and in building a new structure of rates for your industry I have no doubt it will be very much influenced by these figures, which are so comprehensive. Their accuracy cannot be questioned, and they are the kind of data and evidence which the commission is always anxious to get.

PROPOSED SCALE OF RATES COMPILED

"Now Mr. Oliver has worked out a scale of rates. I am not going to attempt to give it to you now. You could not carry it in your head, but it will be submitted next Monday to the Joint Traffic Committee. This scale is a measure or yard stick by which the reasonableness of rates is to be tested. He worked out that scale by taking all of your shipments that were reported for 1918, over three million tons. Now I am here to state that in all my experience before the Commission and my knowledge of cases before the Commission, how they have been presented, there has not been a case presented before based on statistics so comprehensive by any shipper or any body of shippers. Three million tons. He has taken the earnings on those shipments. He has got the average earnings per car per mile. He then built a scale of rates reflecting the present earnings. He then reduced that scale 25 per cent. That is his judgment as to what it should be on a fair basis, and that is the Oliver scale.

RATES TO SAME DESTINATION FROM DIFFERENT PLANTS

"Now by using that scale we expect to deter-

mine what is a fairly reasonable rate, but that is not the only question. Another great question is the relation in the rates to the same destination for different plants. Now that is the hardest job of all. We are endeavoring to work out a rate structure, for instance, from Illinois and Indiana plants, from plants in the Canton district in Ohio, and in all other territories. We are working out a structure of rates, and we are endeavoring to see that no plant gets a rate that is unfair, that nowhere will there be any advantage, that no plant will have any preference, and no plant be prejudiced. Now you can see it is a big job, but the cardinal principle is fairness and equity. Where there are old established relations in the rates that today are considered fair we are preserving them or endeavoring to do so. Where there are complaints and disagreements, as there are between Illinois and Indiana plants, we are proposing a new structure of rates that we believe is fair, proposing it to your Joint Traffic Committee, there to be threshed out, revised, and, I hope, perfected, and then presented to the Interstate Commerce Commission. Now we are doing that in all territories, keeping in mind the principle of fairness and equity, removing discriminations. We have many complaints of discriminations before us, and we are endeavoring to work them out on a structure of rates, so far as humanly possible, that is going to put an end to these discriminations as between plants.

COMMERCIAL AND COMPETITIVE CONDITIONS CONSIDERED

"Now your Joint Traffic Committee is opposed to a strict mileage scale of rates, and there are many good reasons for that position. We are not proposing the Oliver scale for a mileage scale to be universally applied. In other words, we are not building our rates entirely on mileage, but on commercial and competitive conditions as well. But we are using this scale in fixing our basis rate to which other rates are related by differentials, and where there is no question of relation what should be the fair measure of the rate.

"Now a strict mileage scale would disrupt all your old relations in the rates and all these old differentials would perhaps unduly localize the business, giving the man with a short haul too great an advantage, but we are not proposing a strict mileage scale. Let that be understood, but the Oliver scale is a means of testing the reasonableness of rates.

"Briefly, that is our work. The fundamental problems are mini-



Secretary-Treasurer E. R. Sturtevant, the Energetic Working Force Behind the Hollow Building Tile Association.

mum carloading, establishing a brick list and the great problem of all is a fair measure of rates on the brick list, as compared with railroad earnings on other commodities and on all traffic, and then the paramount problem of differentials and relationship in rates, to have them fair as between plants, we hope, so far that they will be permanent."

DEALER ADDRESSES MANUFACTURERS

On Wednesday afternoon, March 24, the tile manufacturers were addressed by Thomas E. Wright, of Rochester, N. Y., formerly secretary of the New York State Builders' Supply Association, now general manager of the Building Materials Corporation. Mr. Wright took for his subject, "The Building Supply Dealer, a Necessary Factor in the Distribution of Hollow Tile." Mr. Wright's talk is reproduced on another page of this issue.

C. L. Rorick, of Clark L. Rorick & Co., Advertising, Chicago, also spoke. His subject was "Sales Insurance."

E. R. Sturtevant, secretary of the Association, on Thursday morning, March 25, made an excellent report concerning the organization's activities. A steady, substantial growth has been realized and much good work has been accomplished. A noteworthy portion of the report covered the publicity program. The sum of \$75,000 has been appropriated for advertising for the year ending June, 1920. A substantial part of this amount has already been expended for advertising space in various national and class mediums, for a number of very attractive booklets, and for other promotional purposes.

DIRECTORS ELECTED

The matter of election of officers was then taken up. According to the constitution of the Association, the election of officers consists of the election of a board of directors. Under the new constitution the board of directors is made up of fourteen members, one director elected from each group, of which there are seven, and then seven directors elected at large. The idea is to let each group name its own director. The constitution provides that each group may nominate one of its members for such director, and then in addition to that seven directors at large should be nominated. Therefore, in the election of officers the function of the association is to elect a Board of Directors and then the Board of Directors elects its own president like any business concern. In this connection the following directors were elected for the coming year:

J. J. Amos, Humboldt Brick Mfg. Co., Humboldt, Kans.; F. F. Anness, Anness & Potter Fire Clay Co., Woodbridge, N. J.; H. C. Downer, Malvern Fire Clay Co., Malvern, Ohio; G. O. French, Consolidated Clay Products Co., Canton, Ohio; G. H. Galvin, Rockford Brick & Tile Co., Rockford, Ia.; D. C. Haeger, Haeger Brick & Tile Co., Aurora, Ill.; Frank R. Hale, Vigo-American Clay Co., Terre Haute, Ind.; J. T. Howington, Coral Ridge Clay Products Co., Louisville, Ky.; William Hutton, Jr., Troy Fire Proofing Co., Troy, N. Y.; H. M. Keasbey, National Fire Proofing Co., Flat Iron Bldg., New York; T. S. Neiswanger, Standard Clay Products Co., Oskaloosa, Ia.; J. H. Payne, Fraser Brick Co., Dallas, Tex.; R. F. Williams, Athens Brick & Tile Co., Athens, Tex.; V. L. Yepsen, National Fire Proofing Co., Fulton Bldg., Pittsburgh, Pa.

OFFICERS ELECTED

Following the association meeting the directors met and elected the following officers:

President, H. M. Keasbey, National Fire Proofing Co., New York; Vice-President, J. T. Howington, Coral Ridge Clay Products Co., Louisville, Ky., and Secretary-Treasurer, E. R. Sturtevant, Conway Bldg., Chicago.

SUGGESTIONS FOR FUTURE WORK

"It struck me," said E. R. Sturtevant, "you would want to know, and we would like to have you know, and we would like to get any suggestions that you might have about some of the things that we are talking about over in the office, and things that will be brought up to the advertising committee for their decision. Some of them will doubtless be taken care of and some of them will not be done at all. One of the things that has been suggested is the use of some large posters which could be made available to dealers and manufacturers, bill board posters. It was brought up in convention one time that if we only had the money and could put on all of the bill boards all over the country just the single statement, 'Hollow tile, the most economical form of permanent construction,' and could get that one thought into the minds of the building public, our problem would be solved. We would not have anything further to do, but, of course, that would take a great many years and take a great many thousands and thousands of dollars, but it did occur to us that we might be able to get some posters with that statement and a place for imprint, and that many dealers in various parts of the country would like to have them, and many manufacturers would like to have them to distribute around within a radius of his own territory. We have in mind, and we are undertaking to get some prices of what it will cost, and without going into any details, we can get those large posters that go on the ordinary bill board for probably \$2.50 a piece, and we can make arrangements by which the name of the individual dealer or manufacturer can be imprinted in there for a comparatively small sum, and it would not mean a very great expenditure to plaster within a reasonable radius of your factory those big posters, and it would do you a lot of good.

NEWSPAPER CUTS FOR DEALERS

"Then we are preparing to get out newspaper cuts for dealers. We are having even now a lot of inquiry from supply dealers, lumber dealers, material dealers all over the country, asking for electros which they can put into their local advertising, and we are preparing to furnish a full series for various sized spaces which we will furnish to any newspaper or any dealer or any manufacturer that wants them at nominal cost.

FILM TO SHOW HOW TILE ARE MADE

"Then it has been suggested that we produce a moving picture film, showing the manufacture and use of tile. That has been done by the limestone people. They have a film of that sort, and they are now going around to various architectural associations and other organizations showing that film and giving a lecture. We want to investigate that. Whether that would be feasible for the coming year, or whether possibly we ought to wait until a little later is a matter that your advertising committee will have to determine. The expenses of getting the film would be five or six thousand dollars, but after you have got it the expense of getting any number of them is not very great.

OTHER SUGGESTIONS

"I spoke in the report of the educational campaign thru advertising to assist in code work. That is already being planned, and we expect to put that into effect. We look for a good deal of result from that. I think it will be a good thing. We want to produce a lot of small envelope folders for manufacturers and dealers, showing the various uses of tile. We have in mind the production of other booklets, reduced in size, 8 page, 12 page, 16 page booklets, on churches, schools, apartment buildings, store buildings, public garages, storage buildings, one on industrial housing, all of

the various uses to which our product is put. We can get out special literature on each individual type of building.

THE QUESTION OF A NOVELTY

"We have in mind seeing if we can get a novelty to be distributed by the association or manufacturers, which will determine easily the necessary amount of cement, lime and sand for different tile walls. We do not know whether that can be worked out or not, but if we can it will be an interesting novelty. You might want to give it out to your mason contractors and dealers. All of that has its widespread influence. We expect to revise the Hand Book and the Manual and reprint them during the year. The Farm Book probably will last us over into next year. We want to extend the plant service to the public covering residences, farm buildings and workmen's homes. Our House Book, as you know, has floor plans in it. We expected to take the popular plans and work up working drawings for them, ready for distribution to people that want them. The other organizations which are competitive to us are centering their campaign really on the plan service. We are emphasizing the educational features in our campaign, but in order to compete with them and be right on the job we probably will have to have a plan service, and we are looking into it, not in an extensive kind of way, but it will grow as time goes on.

SALES MANUAL FOR SALESMEN AND DEALERS

"We have in mind a sales manual for salesmen and dealers covering completely the arguments in favor of tile construction. We think we can get up something that you can put into the hands of your dealers and of your salesmen which will be of great help to them as they go out to the public to talk the uses of tile. We can give them something that will be right straight to the point, and it ought to be very interesting and very valuable, a booklet covering the manufacture of tile that is purely educational in its character, and I think that would be interesting. The man that uses it would be glad to know how it is made.

"A series of articles in publications, in the country publications, in the trade papers, farm papers, and stories covering tile buildings and different types of tile construction. Those have a further suggestive influence which it is very hard to measure, and we are preparing to have some of those this next year. The reason we did not do it this last year is because we did not want to try to do too much. We had to get out the books, and that was the big thing, to get to using space, and the coming year we are going into some of these side issues with the continuance of the educational work with masons, carpenters and contractors, and a campaign for new dealers, if the business conditions warrant it.

FIELD MEN

"Now, I spoke just a little of the use of field men. I want to explain that a little further. What we have in mind is the employment of two or three or four men who will have engineering or architectural training, who can go over the country talking to architects and engineers in their own language on the advantages of our product and the proper method of its use. Now, they will receive a hearing, and what they say will have a force which it could not have coming from any individual manufacturers, and the influence of that is going to be immeasurable. It seems to me that our campaign will not be anywhere near complete until we can supplement the use of space and the production of these booklets with something of that sort.

"Then we want to do some educational work in our architectural schools and colleges. The use of the Hand Book—I believe that the Hand Book will become a textbook in each one of the architectural schools, and we want to make arrangements to have somebody from our force go to these various schools and talk to the students, the architectural

students and engineering students who will go out into the building business of the future, telling them about our product—missionary work, that is, pure and simple—building for five, ten or fifteen years from now.

DEALER COOPERATION NOT TO BE NEGLECTED

"Those are just a few of the things that we have in mind along promotion lines. As I say, we may not be able to do all of them, but we certainly are going to do some of them. Then we are going to make a very special effort in working up the dealer cooperation, enlarging along the lines that Mr. Wright spoke to us yesterday, in attending various conventions and the establishment of further committees, so that I believe at the end of another year you can look back on the coming year and feel that we have made even more progress than we have made in the year 1919. We would like to have your slant on it. You have got mine now, and if you have other ideas we want to get them now, or we wish you would write to us.

"Everything that comes into our office from our members is given the most careful thought, and there is not anything that we like to get better than your suggestions and criticisms of the work we are doing. We don't think it is perfect. We know it is not, and in order to make it four-square and absolutely get the best results we have got to have the criticisms and suggestions that come from you. You are out on the firing line and our work is here in the office trying to see what is out there. We have to get the reaction from you."

HOW ASSOCIATION LINES UP ON MEMBERSHIP

The Association now has about sixty-two members and the goal has been set at eighty to eighty-five by July 1. The membership of the Association represents somewhat between 1,300,000 and 1,400,000 tons of hollow tile. About eighty per cent. of the tonnage in the territory covered by the Association is represented in the membership.



February Building Figures

The striking fact in February building estimates is that while valuation shows a gain of practically 230 per cent. over 1919, the number of permits (18,091 for February, 1919, and 21,726 for February, 1920) is 20 per cent. The average value of the permits in 1920 is \$5,800 for January, 1920, and \$5,200 for February, 1920, showing that present building is confined to large projects. From 196 official reports, the "American Contractor" finds a total of \$114,669,429 for February, as against \$117,747,298 from 193 cities in January and against \$34,785,196 for February, 1919.



Alien Arrivals and Departures

The United States Federal Reserve agent at New York, in his report on business conditions, dated February 20, says: "While a turn in the tide of European immigration is reported to be in prospect, no heavy increase, as compared with a year ago, has yet taken place." The figures for 1919 are, alien arrivals, 141,223; alien departures, 113,301.



To bring about essential changes in the Bill of Lading Act in Interstate and Foreign Commerce, which became a law on January 1, 1917, Francis B. James, chairman of the Committee on Commerce, Trade and Commercial Law of the American Bar Association, has called a meeting of members of the association at New York on April 9-10. Another subject to be considered at this time will be a number of suggested amendments to the National Bankruptcy Act.

FURNACE GAS PRODUCER— WHAT IT IS—HOW IT WORKS

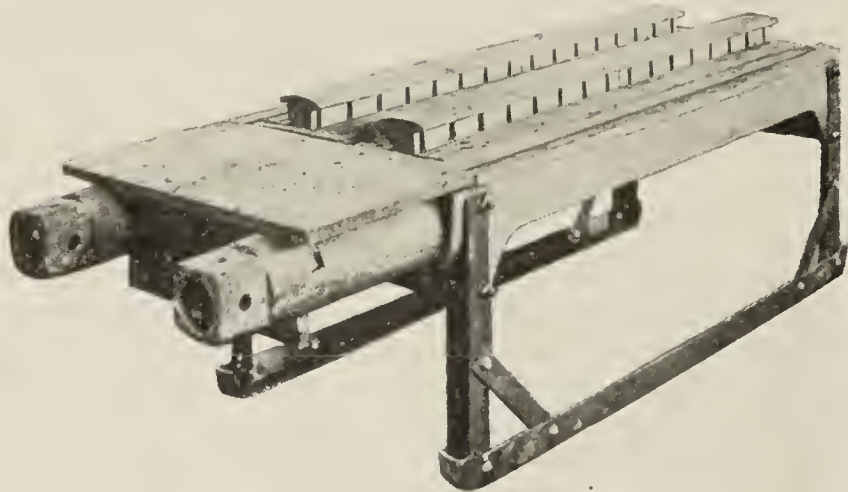
*New Type of Furnace Which Is Placed Right in Fire Boxes
of Kilns and Which Is Designed to Act As a Gas Producer*

OF THE SEVERAL NEW SYSTEMS, apparatus and equipment that have recently come to light because of the value of each as a fuel saver in the burning of clay ware there is one that has as yet not been given much description but which is beginning to show good features, so we deem it advisable to bring it to the attention of the clay products industry. Each of the more successful forms of equipment and systems which have of late proven themselves of great value in reducing the enormous fuel waste of which we as an industry must plead guilty, has its proper place. In some cases, a kiln improvement which has made a great success on some plants, would make an absolute failure if tried on others.

The clay industry is one in which there are very few points on which all plants could be standardized by reason of the fact that the raw material that forms the product varies with each individual plant as much as do any two human beings. Hence, it would be folly to say that any one single piece of equipment will be the "panacea for all ills" in the industry. From all appearances, the tunnel kiln is going to be the nearest solution to this end, but those of us who have periodic kilns already built and operating cannot afford to junk them for this kind of kiln.

WILL CEASE TO BURN SOLID FUEL ON GRATES

The subject of this article is the furnace gas producer which was invented within the past year by Mr. Underwood who has previously had much experience with gas producer work. Most of the data and description presented herewith is from a paper read at the December meeting of the New Jersey Clay-Workers Association and Eastern Section of the American Ceramic Society, by Charles W. Parks, a ceramic engineer connected with the International Clay Machinery Co.



The Furnace Gas Producer is a Simple Cast Iron Arrangement.

It is being said by prominent engineers that the day will soon come to hand when industry will cease to burn solid coal as is now practiced and will use instead, producer gas. With each succeeding year, producer gas is being given more and more attention by the clay industry. The general advantages of the use of producer gas, such as the clean product obtainable, the clearer color, the ease of control, and all-

round general efficiency, are too well known to require any detailed explanation.

The distinction between continuous and periodic kilns, how-



The Apparatus Resembles a Flat Grate Arrangement in Many Respects. There is, However, an Accessory for Permitting the Entrance of Steam Thru the Furnace at Various Points. Moreover, the Apparatus is in Movable Sections so that the Ashes May Be Dumped.

ever, and the relation of the furnace gas producer to them is a matter which should be thoroly understood. Producer gas-fired or direct coal-fired continuous kilns of all types, that is, either the moving fire or the moving ware type, are in a class by themselves. The furnace gas producer, or in fact any kind of producer gas installation on periodic kilns will never bring about as high a percentage of saving in time, labor and fuel as any type of continuous kilns, because of the fundamental design behind the two. When a new plant is being built, if it is anyway possible, and it should be made possible, a continuous kiln of some kind should be installed.

FURNACE GAS PRODUCER OF AID TO PERIODICS

The furnace gas producer has not been designed to supplant continuous kilns, but it can be used to marked advantage on a great many kinds of continuous kilns. It was designed primarily to reach the large majority of clay plants,—that is, those plants which are now operating with periodic kilns of any type and which do not feel it advisable, or in accord with good business, to go to the expense of tearing down these kilns and installing continuous kilns.

Altho there are a number of producer gas burning systems used on periodic kilns which are operating with success, it has necessitated the installation of centralized producers quite far distanced from some of the kilns and requiring a high grade of coal. Very often the extra expense required for purchasing the proper kind of coal has made the installation of a gas producer of doubtful economy. Also the underground gas flues which connect the kilns with the gas producer are somewhat costly to install and are subject to leakage. Furthermore, they may necessitate the

shutting down of the plant at times for several hours to burn the carbon, soot and tar out of the flues.

The gas when produced usually has a sensible heat of from 700 to 1,000 deg. Fahr. on the average, and when conveyed thru long distances in underground flues, especially where drainage is not of the best, loses some of this latent heat. Branch flues to each fire box and special burners are also required.

Despite these disadvantages, there is but little doubt that the gas producer is the proper fuel burner and that it is the application rather than the principle that is at fault. Hence, the furnace gas producer was constructed with the purpose in view of eliminating some of the objectionable features of the ordinary gas producer arrangement as well as could be done.

DESCRIPTION OF APPARATUS

The furnace gas producer is a simple cast iron arrangement. One is required for each fire box on a kiln. The apparatus resembles a flat grate arrangement in many respects altho there is an accessory for permitting the entrance of steam thru the furnace at various points. A one-inch steam line which runs around the kiln is connected to each furnace, the steam entering thru a jet made by placing a cap with a small hole drilled thru it, over a nipple, the steam being controlled by an ordinary globe valve. A boiler is required as in all producer gas installations and a fifty pound pressure on the boiler is satisfactory in this case.

The furnace is operated in the following manner: In starting up, a layer of ashes four or five inches deep is thrown over the gas grate, a fire built over this and a little steam turned on to provide the proper amount of air for combustion, the charging door being left open. As the temperature of the fire box rises so as to permit of gas producing conditions, the charging door is closed, shutting off that supply of air so that combustion does not take place in the fire box itself, nothing but gas being formed.

The gas travels upward until it reaches the supply of secondary air, passing into the kiln thru an opening made in the kiln wall directly above the arch of the furnace. The gas, therefore, does not burn until it reaches the kiln proper, so that you have the heat just where you want it, around the ware. It is stated that there is no intense heat in the fire box, meaning a saving in bag wall repairs and a saving in grates, and since the furnace gas producer itself is entirely protected by a layer of ashes and has a constant stream

of steam and air passing thru it, there is no danger of ever burning it.

FURNACE DOES NOT GET HOT

"Now this point," it is stated in Mr. Park's paper, "can be illustrated by citing an actual instance. A furnace gas producer was shipped to one plant and was installed in the kiln with the linen shipping tag still attached, and at the end of the burn, which by the way, went to a temperature of 2,800 deg. Fahr., this shipping tag was not even charred. The heat, therefore, is in the kiln where it is needed and not in the fire box."

The steam constantly passing thru the fuel bed, breaks up the clinkers which tend to form and hence eliminates that unpleasant task which nearly every fireman is forced to do—that of drawing clinkers from a hot fire box. Furthermore, it is said that no skilled help is required to operate this equipment.

One of the features claimed for this apparatus is its fuel requirements. It is said that a high grade coal is not required, as any coal that will burn can be used. Furthermore, with proper manipulation of the furnace, there is no smoke formed. This in itself is a very valuable feature to some plants that are finding it difficult to comply with the smoke regulations of their city ordinances.

Several plants manufacturing various lines of clay ware have been trying out this new furnace with the view of entirely equipping all of their kilns if the test proves satisfactory. We quote below another section of Mr. Park's paper, which is of considerable interest:

REPORT OF TEST BY USER

"I have here a report from Mr. McKinley, general manager, Crescent Refractories Co., Curwensville, Pa., which has been operating the furnace gas producer on one of its kilns for the past six or seven months. The company is burning fire brick approximately to 2,800 deg. Fahr., with rectangular kilns fired from each end with four fire boxes, instead of from the side:

COMPARISON COAL CONSUMPTION AND BURNING TIME WITH THE FURNACE GAS PRODUCER AS AGAINST HAND FIRED KILNS ON COMMON GRATES

Hand Fired Kiln No. 35	
Number brick	29,957
Burning time	6 days
Total coal consumption.....	56,270 lbs.



One Furnace Gas Producer Is Required for Each Fire Box on the Kiln.

Total ash per kiln..... 4,370 lbs.
Coal consumption per 1,000 brick..... 2,171 lbs.

Furnace Gas Producer Kiln No. 5

Number of brick.....28,153
Burning time3 days, 14 hours
Total coal consumption.....41,970 lbs.
Total ash per kiln..... 3,210 lbs.
Coal consumption per 1,000 brick..... 1,491 lbs.

"Coal saving in furnace gas producer kiln No. 5 was 680 lbs. per 1,000 brick.

"Time saved in kiln No. 5 was 2 days and 10 hours.

RESULT OF TEST UNDER A BOILER

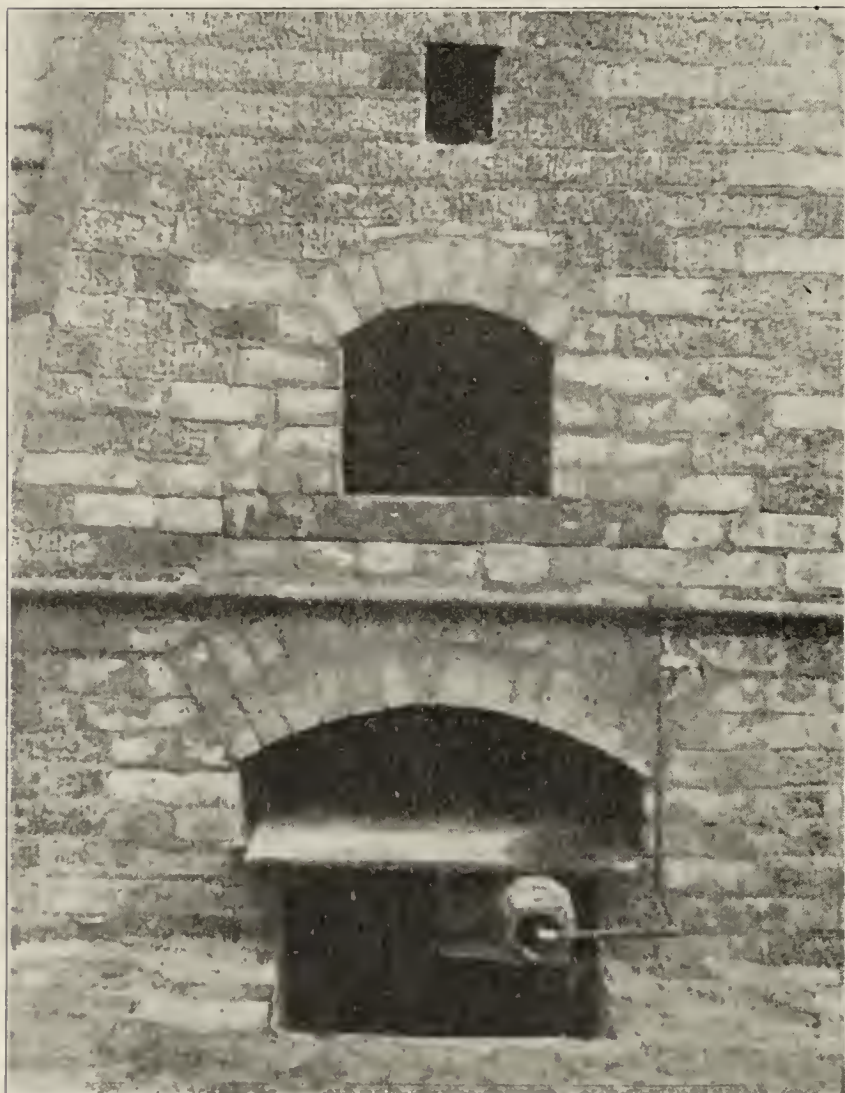
"There is another report signed by R. M. Graham, addressed to J. M. Switzer, of the Joyce Cridland Co. This particular installation is being used under boilers:

"The statement of results obtained from the tests run on the boilers at your place is the following:

Test No. 1

No. 1 Boiler—Underwood Tuyer Grate, Root Water Tube

Horsepower80
Duration of test.....8 hours
Coal burned 2,072 lbs.
Water evaporated15,080.8 lbs.
Water evaporated, per lb. of coal..... 7.27 lbs.
Feed water temperature.....190 deg.
Flue gas temperature.....385 deg.
Steam gauge pressure, average..... 95 lbs.
Boiler horsepower developed.....55.44
Percentage of rating developed.....69.8
Ashes300 lbs.



A One-Inch Steam Line Which Runs Around the Kiln is Connected to Each Furnace.

Efficiency of boiler and grate.....57.2 %
CO₂, average10.8 %
Excess air81 %
Gain in efficiency.....21.25%

Test No. 2

No. 2 Boiler—Regulation Shaker Grate, Root Water Tube

Horsepower80
Duration of test.....8 hours



Charging a Furnace Equipped with a Gas Producer.

Coal burned 2,338 lbs.
Water evaporated12,043.5 lbs.
Water evaporated, per lb. coal.....5.38 lbs.
Feed water temperature.....191 deg.
Flue gas temperature.....400 deg.
Steam gauge pressure, average..... 80 lbs.
Boiler horsepower developed.....44.27
Percentage of rating developed.....55.34
Ashes362 lbs.
Efficiency of boiler and grate..... 42.10%
CO₂, average 6.6 %
Excess air160 %

"It would seem that the benefits derived from the Underwood grates could be classed as follows:

"1st—Practical smokelessness.

"2nd—Absolute control of draft conditions during light load periods.

"3rd—Ability to develop more than normal rating when necessary.

"4th—Ability to burn any kind of coal economically.

"5th—Economy of operation."

"This last test brings out some very interesting details as to the increased efficiency of the boiler when using the furnace gas producer.

EFFICIENCY

"The point around which the efficiency of the furnace gas producer evolves is this, that the furnace gas producer allows of more ideal combustion of the coal, so that a much smaller percentage of excess air is required for burning coal. On the boiler with the furnace gas producer it can be seen that only 81 per cent. excess air was required while with the ordinary regulation shaker grate 160 per cent. excess air, or twice as much was necessary for combustion. That, of course, is the basis on which the efficiency of all producer gas installations of whatever type are based. The closer you can get to ideal combustion conditions, that is, the closer

you can get to burning the coal with a zero percentage of excess air, the closer we approach correct burning conditions. The furnace gas producer is a long step in this direction."

Summarizing some of the apparent advantages of the furnace gas producer, we find that it consumes all smoke and gives better combustion than other furnaces; leaves no unburned carbon; requires no tunnels but is built directly into the kiln itself, which is a distinct advantage inasmuch as it does away with such losses as radiation, an important factor, and also sensible or latent heat; a high grade fuel is not required, as any coal that will burn can be used; it can be installed in a fire box with such ease that a bricklayer can complete a kiln of ten or twelve furnaces in a day's time. It is in reality a gas producer and brings about a better and cleaner product. Moreover, it is said to be good for salt glazing, as by simply regulating the steam blast an intense heat can be obtained within the fire box with clear oxidizing conditions or a reducing flame can be obtained in a moment's notice, which are the two factors of greatest importance in salt glazing.

Against these advantages must be considered such items as cost of installation, repairs, up-keep of furnace itself, ease of installation, steam line problems, and cost of steam. These points have all been touched upon in sufficient detail in the preceding part of this article with the possible exception of the steam requirements. It is stated that no test has been

made on this detail as yet, but figuring theoretically, by using a fifty or sixty pound pressure with a one-sixteenth inch opening in the jet, about forty pounds of coal per twenty-four hours per jet are required. This calculation is based upon the assumption that the steam jet is completely open. However, with the furnace gas producer it is not often that the steam is fully on, the jet being only partly open most of the time, especially is this true in the first part of the burn when the temperature in the kiln is low.

It is said that at one plant where a kiln equipped with twelve furnaces was burning during one of the coldest spells of weather last winter, the boiler man advised that while the furnace gas producer was running full blast, he was not able to notice any amount of drain on his boiler. Furthermore, the possibility of the steam line freezing is stated to be slight because of a pressure of fifty pounds behind it and the steam constantly flowing. Moreover, altho several plants were using the furnace gas producer during the cold weather last winter none of them have reported any difficulty due to the steam line freezing.

A point that will appeal greatly to the clayworker is that it is not necessary to install the furnace gas producer on all of the kilns, but it can be put on one kiln, the smallest one on the yard, at a cost that is comparatively low, and an opportunity will be given to study and test the new device without much expense.



CHICAGO MEETING *of* FEDERATION *of* CONSTRUCTION INDUSTRIES GRAPPLES *with* BIG ISSUES *of* FREIGHT, FINANCE, LABOR *and* STANDARDIZATION

AN ORGANIZATION of growing interest and importance to the clay products manufacturer is the National Federation of Construction Industries. The association is built around the contention that the construction industries, altho America's most basic business, have no standing as an integral industry in Washington simply because the various divisions have heretofore failed to realize their vital need of getting together and uniting in support of their common rights and requirements. This organization held its first annual meeting at the Hotel Sherman, March 24 and 25.

More than one hundred associations and individual organizations representing every phase of the nation's most basic business, participated in this, the first annual meeting. The convention was characterized by notable addresses, timely discussions, and forceful decisions, representing the most important issues of the hour.

The matter of transportation was taken up. The normal transportation requirements of the construction industries are enormous—at least twenty-five per cent. of the total freight traffic of the United States, and because of that, special consideration should be accorded them in this critical hour of car shortage and crippled railroad facilities.

Present labor unrest was recognized and it was believed that demobilization demands the development of some such plan as has been already in operation in Kansas under the name of the Industrial Court for the prevention of strikes and the settlement of controversies without interfering with production.

It was also seen, as a far reaching step toward the reduction of unnecessary costs, that a nation-wide program for the standardization of various building products is demanded.

Because of the difficulty in securing real estate loans, Congress is to be urged to enact such a bill as that presented by Senator Calder to encourage home ownership.

The Federation of Construction Industries proposes to raise \$100,000 for expenses in 1920. This money is to be spent in maintaining a field division for developing associations, promotion of sales and for assistance in securing memberships; for publicity and statistics, which covers all publicity matter, the issuing of service letters, and so forth; industrial cooperation, to secure first hand information with respect to employment conditions, labor, and so forth; standardization and commercial arbitration; legislation and transportation, expenses for the next convention and general expenses of the Association.

The organization has accomplished considerable during the past year and plans for even greater work for 1920.

Among the directors of the Federation who are interested in the manufacture of various forms of clay products are: A. M. Maddock of the Thomas Maddock Sons' Co., Trenton, N. J., manufacturers of sanitary ware; Walter S. Dickey, W. S. Dickey Clay Products Co., Kansas City, sewer pipe manufacturers; H. M. Keasbey, National Fire Proofing Co., New York, hollow building tile and Herman L. Matz, S. S. Kimbell Brick Co., Chicago, face brick dealers. Ralph P. Stoddard, secretary-manager of the Common Brick Manufacturers' Association of America is also taking an active part in the work of the association. He delivered an address at the opening session of the convention entitled, "Opportunities for Cooperation in the Construction Industry."

BRICK BUILDINGS —OLD *and* NEW

*A Delightful Narrative of a Trip Thru Parts of New England
Wherein Brick is Closely Interwoven with the History of That
Section, the First Half of Which Appeared in the March 23 Issue*

By W. N. Cary

*Read Before the Annual Meeting of the Common Brick Manufacturers' Association
of America, at Columbus, Ohio, February 17, 1920*

AFTER LEAVING the Washington Elm I had a twofold purpose. Coupled with my desire to aid the brick industry was my desire to do something more, and with this dual purpose we passed over into Medford and halted at a garage, which in appearance, might have been built a few years ago, but in reality was the same building in which was distilled some two hundred years before, Medford rum. That famous liquor obtained its name and still holds it because of the product turned out from this same old brick building whose walls are nearly as perfect as when built some two centuries ago. Inasmuch as the old product had all been removed long years before and the 18th amendment was in effect, we drove on with just a fleeting look backward, and a thought of all the cheer, and crime, and headache that had beginning within those walls.

Only a short distance from this old distillery we came to a brick house nearly covered with Boston ivy, and Parry told us this was the old Governor Craddock house.

GOVERNOR CRADDOCK'S HOUSE

There was nothing in its appearance that would attract one's special attention had he been driving along that same roadway. It was an ordinary appearing old brick house occupied by a private family. As we walked up to the front door and knocked we could hear the voices of chil-



Garage in Which Was Distilled Some Two Hundred Years Ago, Bedford Rum.

dren at play, and as the door opened we could see, inside, the ordinary home of ordinary people. But there is a tablet on which we read:

"This house was built in the year 1632, by Governor Craddock—the first governor of the English Colonies in America—and is the oldest brick house in America."

One's mind often fails to comprehend some things just at the moment, but when we began to figure out what 1632 really meant, we found it was only twelve years after the



House of Governor Craddock at Bedford, Built In 1632.

landing of the Pilgrims at Plymouth. Comparing it with the time of the Revolutionary war and the day when, with a whoop, the Americans of Boston and vicinity undertook to turn the Bay into a teapot, we realized that this house had stood as long and was as old to the people of 1776 as the days of '76 are old days to us.

COMMON BRICKMAKERS SHOULD PURCHASE HOUSE

Just try to think of the events in this country and the world during the past 300 years—the generation following generation in this one house. Think of the Indian attacks that must have been made, and the wars that waged about it. Think of 300 winters—and New England winters at that—with their killing frosts, and then think of 300 summers with their withering heat, the winds and the calms, the lightning of heaven and all the forces of nature battling against it, and yet this house still stands—beautiful, and with each brick as perfect as when made 300 years ago. This house should be a shrine to every brick manufacturer, and if ever our association is in such a position financially that it can see its way clear, this old house should be owned by the brick manufacturers of America, and protected and kept that it be not destroyed by the hand of man.

WITNESS CHURCH MADE FAMOUS BY PAUL REVERE

Crossing back over the river we came again into Boston and drove thru some of its narrow, crooked streets in that part of the city largely populated with foreigners, until at last we came to a little old church and it took only a moment to learn what church it was. A number of children, some of them so small you would hardly think they could talk and from their appearance you would doubt their ability to talk in a language you could understand, all left their play and surrounded the car, jumping on

the running board as it stopped and standing alongside of us as we left the car. They all seemed to be saying the same thing, but some of them had a little start of the others so we had some difficulty in knowing just what they were trying to say. Finally we caught the metre of one youngster and this was about his lingo:

"Old North Church—built in 1723—the tower is 219 feet high and from this tower the lanterns were hung the night of the 18th of



Old North Church, Built in 1723.

April, 1775, to signal Paul Revere that the English were crossing the channel to attack."

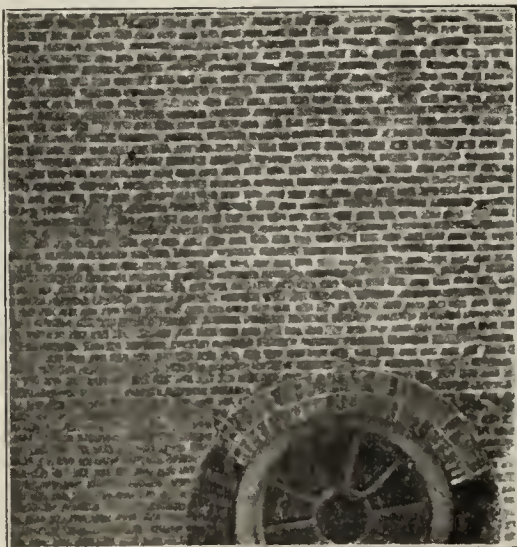
LOSE SIGHT OF BRICK IN HISTORIC INTEREST

There was quite a lot more of their story but we were soon able to get thru the iron gate and had a chance to look for ourselves and try to remember some of the things for which this church was noted.

I could recall only a line or two of Longfellow's poem that went something like this:—that the agreed signal should be,

"One, if by land, and two, if by sea;
And I on the opposite shore will be,
Ready to ride and spread the alarm
Thru every Middlesex village and farm,
For the country folk to be up and to arm."

For a time I even forgot that the church was built of brick, so carried away was I with the thought of its importance in olden days. I could almost see the faithful friend sitting up there in that tall tower watching, and finally catching a glimpse of the English and flashing his signal. How the gleam of the lanterns he lighted that night has lasted, grown brighter, and lighted the world! It seemed as tho I could see, also, over across the river, the



Showing Detail of Old North Church.

horseman watching, and when there shone forth the agreed signal I fancied I could hear the click of his horse's feet as he rushed out in the darkness and called America to arms.

BRICK STILL IN SPLENDID CONDITION

Coming out of my fanciful dream I remembered we had come here to see the brick walls and learn what we could from them, so began to look at those perfect walls. Hardly a change except as they might be stained by years of weathering—only a little sign, here and there, where the foundation had given a bit so the mortar had cracked and you could trace where the new cement had been filled in. But as to the brick them-



Faneuil Hall, Built in 1742, and Given to the Town of Boston by Peter Faneuil.

selves—each individual brick seemed to be just as perfect and as firmly in place as tho put there but yesterday. Surely one would need no other example of the durability of brick.

After Mr. Stoddard had taken a number of pictures we again moved on with an ever increasing feeling of thankfulness that we had been permitted to make this trip. I was getting much benefit for myself—whether the brick industry would be benefited or not.

A short drive from the Old North Church brought us to Faneuil Hall—built in 1742, and given to the Town of Boston by Peter Faneuil of French Huguenot parentage. The tablet informs us that before and during the Revolution there were held in this building many patriotic meetings which kept alive among the people the fires of freedom, from which fact the Hall became known as the Cradle of Liberty.



The Old State House, Built In 1713. On Either Side of its Gable Stand the Emblems of England—the Lion and the Unicorn.

VISIT OLD STATE HOUSE

After leaving Faneuil Hall we went thru a narrow passage-way between modern buildings and stood in State Street near the Old State House, built in 1713. On either side of



The Old South Church.

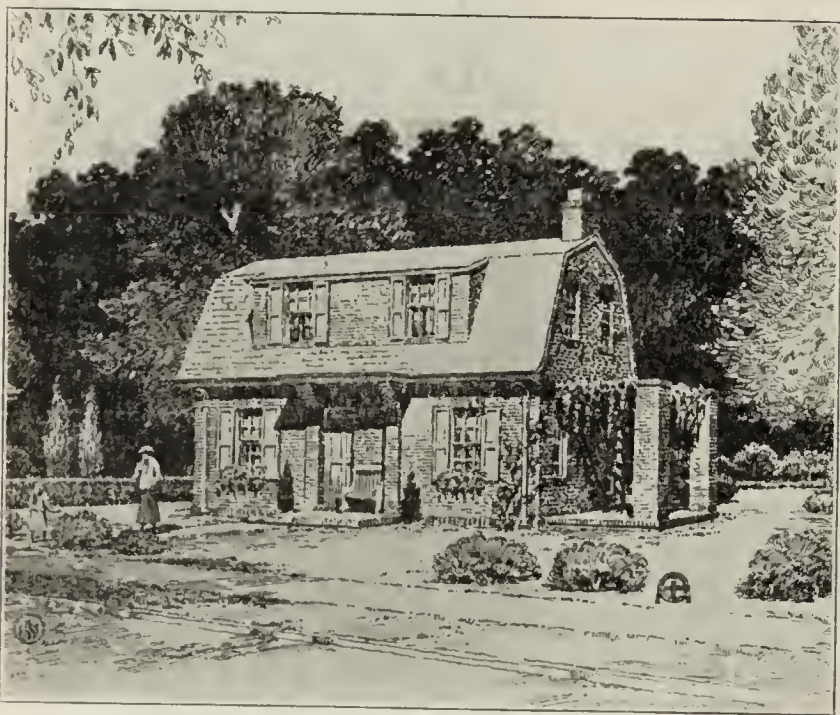
its gable, on the coping, stand the emblems of England—on the one side the lion, on the other, the unicorn.

You will recall that in the days of '76 these emblems were torn down and for years were hidden away from sight. Such was our regard for England in those days that English emblems probably kept better in the dark. Years later, when the New State House was built, Boston, so it is recorded, cared so little for this old building that the question of tearing it down was under discussion. But when Chi-

cago came forward and offered to buy it, remove it brick by brick and set it up within her own gates Boston woke up, and today the Old State House stands preserved with its emblems again replaced.

HISTORIC OLD SOUTH CHURCH OF BRICK

To finish our trip we visited the Old South Church, as no trip that had for its intent the viewing of the old historical brick buildings of Boston could be complete without visiting Old South Church.



A Home that May be Built of Common Brick, the Plans for Which are Obtainable from the C. B. M. A. of A.

Whittier wrote:

"So long as Boston shall Boston be,
And her Bay tides rise and fall,
Shall Freedom stand in the Old South Church
And plead for the rights of all."

Yes, of course it is built of brick—for what material except brick would have stood and would still stand? There is not much I can say regarding the walls—they are so much a repetition of the other old buildings. They merely add proof on proof that brick is the dependable, durable, beautiful building material that never disappoints, that fire and frost do not affect, and time itself does not destroy.

A few historical notes may interest you. You read:

"On this site lived and died John Winthrop, the great governor."

"Here was built the first house of worship, 1669, of the Old South Church."

"Here in the old house Judge Sewell stood up in his pew during the reading of his confession regarding witchcraft delusion of 1692."

"Here on January 17th, 1706, Benjamin Franklin was baptized."

"Here April, 1730, was dedicated this present building."

"Here March, 1770, after the Boston massacre, was held the overflow meeting, while Samuel Adams went to and from the State House till Hutchinson yielded and withdrew the regiments, and from this same building went forth the Boston Tea Party."

BRICK INTERWOVEN WITH HISTORY OF NEW ENGLAND

I don't know why I have written so much outside the brick end of my trip—but some of you take the same trip and see



A House in Connecticut Built and Faced with Common Brick.

if you can get away from the influence thrown out by these old buildings when you come in contact with them. When on the morning of last August I started out to learn only of brick I learned much more. I learned this about brick by actually seeing them in the walls where they have been for nearly three centuries, as in the old Craddock home—that today each individual brick is practically as perfect as the day it was made. I learned that this one case is not exceptional, but that in buildings for different uses, such as barracks, distilleries, homes, churches and state houses, brick walls have stood in and around Boston for centuries, and from their appearance these same brick will stand in place for centuries to come.

On my arrival in Columbus early this week, when Stoddard and I tried to fit his pictures to my story, we found he had more pictures than I had story. This condition was due to three causes:

1st—The ambition of Stoddard.

2nd—The good nature of George Parry who traveled over Boston and vicinity to such an extent to verify descriptions that he has been "dubbed" Paul Revere by those in his office. It makes me smile to think of George portraying the part of Paul in that midnight ride, but believe me I wouldn't want to be the horse.

3rd—I was too slow for the others and should have had my story ready at an earlier date.

But now to fill in, and show that Boston has no monopoly in brick buildings bear with us a few minutes and we will show you a few pictures selected because of their varia-



A Modern School Located at New Haven, Conn., Built and Faced with Common Brick.

tion, some only proposed, some practically new, and some so old that years don't seem to count.

An accompanying picture shows a proposed home that may be built with common brick. The plans are obtainable from our association. We hope in the near future we may see many homes like these in every state in the Union.

Another picture shows a house built in Connecticut. This is a really, truly home, built and faced with common brick. What can one say of such a house as here shown—beautiful, substantial and fit for a king; what more can one ask?

Next is a modern school built and faced with common brick, located at New Haven, Conn.

No need to comment on the desirability of common brick as a building material when one has only to look to see such examples of their worth as is here shown. Any city or school district should feel proud to possess such a school building and we are gratified that the greater part of its attractiveness is the result of the use of common brick.

OLD, YET EVER NEW

Now cross the ocean and go into England and see one of the many old castles in that country, Long Melford Hall at Long Melford, England, built in 1560. It makes one stop



Long Melford Hall at Long Melford, England, Built in 1560.

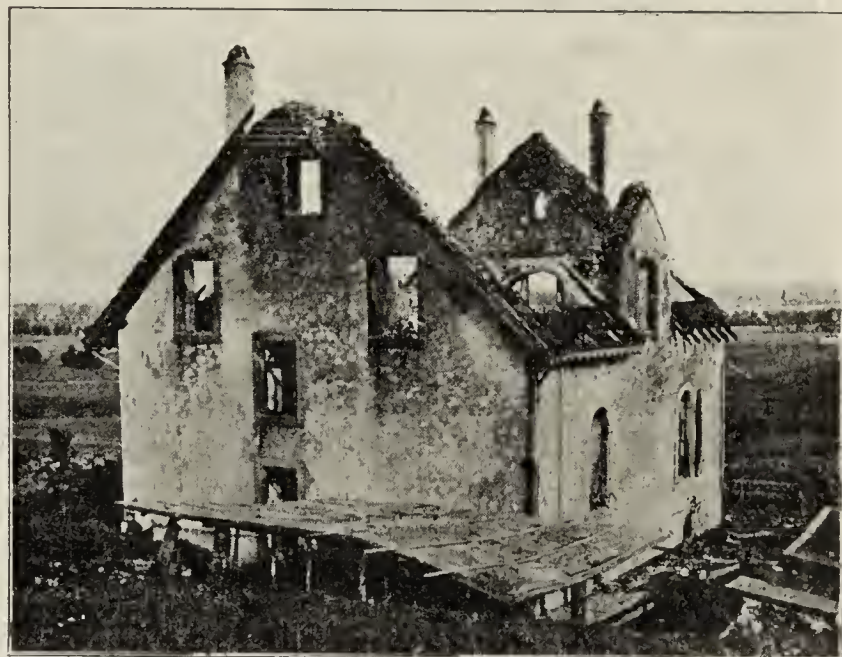
and think to even look at a picture of a building that has stood for 360 years—old? Yes, in years, but ever new.

Again, we have a picture taken from the war zone in Belgium. What other material think you could this house have been built of except brick and stood the shock of war as

these walls have? Hardly a vestige of other parts of this house remain, yet all its walls and gables, and even the dormer window and the chimneys are still there.

If these walls could speak, I fancy they might say, "Here I was built and here will I stand."

Leaving Belgium, we may come back thru Holland. If you can imagine an occurrence that took place some 280 years ago, you would see a quantity of brick in that country being loaded in small sailing vessels not much larger than the little fishing smacks along the New England coast at this present time. After they are loaded, follow those same little boats for a few weeks and you may see them entering the harbor of New York, as it is known today, thence for days working their slow and weary way up the Hudson River until at last they anchor at a point on the opposite side of the river from where Albany now stands. Then you would see those brick taken to the shore. Finally, in 1642, on the banks of the Hudson River at Rensselaer stood a brick building, a manor house and place of defense, known as Fort Cralo. One hundred and sixteen years later, in 1758, it was used as headquarters for General Abercrombie on his march to attack Fort Ticonderoga. During that time it is said that the army surgeon, R. Shuckburg, composed the popular song that inspired Americans with more courage and independence than any other tune that has ever been written. (It has about



A Picture from the War Zone in Belgium Showing the Brick Walls and Chimneys Still Standing.

the same effect on the average American as the few drops of champagne had on the mouse, who after partaking of that beverage climbed on a stool and said, "Now bring on that damned cat.")

Yankee Doodle was composed in the cantonment in the rear of this building and today there stands the Yankee Doodle House as it is known in Rensselaer, N. Y.

We have all heard talk about the durability of brick buildings, but all the words that can be put together do not impress one so much as actually seeing a brick wall that has stood and is still standing in as good condition as when built years and years and years ago.

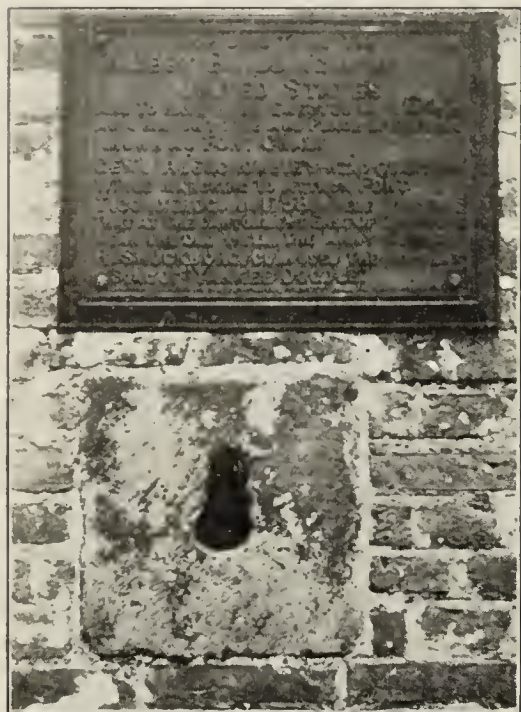
You remember how our country was thrilled with the story that during the great war an officer of our American army, after having moved his men forward to a place of great advantage, gave this final word of command: "You're there. Now stay there!" and they stayed.

Might not the builders, as they worked on these old buildings, have had the same idea in mind as they placed one after the other in the walls these same brick we see there today, and if they did not express it in words, they in fact commanded: "You're there. Now stay there!" and like good soldiers they are still there tho centuries have rolled on.

So much I learned; also that modern architecture finds in brick the best material for producing beauty, strength, and durability.

BRICK GIVES OUT COMFORT AND CHEER

The following perhaps I imagined: There is a belief



Showing Tablet on Yankee Doodle House.

among some of the people of the world that inanimate things absorb the ideals and feelings of those who are closely associated with them, and that afterward these same inanimate things give out these ideals and feelings to those who come in contact with them. I will not try to prove this to be so, neither will I argue with you if you think it a myth. But since a brick may gather heat from contact with heat and afterward give out that same heat to comfort and cheer, why may

it not be possible that there is more in this belief than our minds can comprehend? Is it not so—a little leaven leavens the whole? So may the ideals and spirits of those bodies, which years ago returned to the dust from which they came, return again to those who come in contact with the inanimate things they were associated with, and these same spirits and ideals take possession of the living.

The breaking up of the Boston police strike is an exemplification that the spirit of 1776 still lives in and around old Boston, and from the time I left the Old Harvard Barracks and the Washington Elm, on thru the rest of that day, this feeling was with me. That association and nearness to those scenes and to those old brick buildings brought forth in my mind the resolve to try to do my duty as those who fought in '76 had done theirs. You may smile at this theory, as theory it is, but explain to me if you can, or let the most knowing scientist try to explain, how a cutting taken from a rosebush and placed in the ground will again spring up and bring forth in a new bush, flowers of the same hue and beauty, and true to the parent bush even in perfume. If that is possible, and we know it is, yet cannot explain how, why may it not be possible that the ideals and ambitions of those gone on, may come back to us the living, with all their force, thru association with inanimate things with which they were associated?

• BRICK A MEMORIAL TABLET

Let me add this thought: Coupled with my desire to aid the brick industry was also my desire to do more. Let it be worth what it will, accept or reject it as you like. We are the makers of a material that is destined to last long after we have gone on. We should try to think of each brick we manufacture as a tablet, on which is stamped, or in which is ingrained our ideals and feelings. Let it be thought possible that in the years, yes, in the centuries to come, some day a youth of that time will hold in his hands a brick of our manufacture, perhaps with our name thereon. What may he absorb from that contact? Will it be the spirit of good will and honor, with love of country and the desire to do good unto others, or will he be influenced by all that is the reverse? Will there be reflected the shadow of the great unrest of the present day? Will he become infected with the

insidious disease so prevalent thruout the whole country—the desire to obtain much and to do little—the love of ease rather than effort? Think! What are our ideals and feelings? Be sure they are right lest generations to come may suffer.

May our confidence in America and its traditions, our trust in a kind Providence, and our ability and will to do right so influence that youth and the ones of his day that they may be 100 per cent. American—that the world may have been made even some better for our having lived in it. I feel that I know the brickmakers of today, as a class, pretty well from one end of the United States to the other, and I am sure that, if coming generations are influenced by the ideals of the brick manufacturers of this day, America is safe. With America safe—spread thruout its length and breadth the story of brick.

Call it advertising if you choose, but I like to think of the efforts of our association as a work of education and I believe that when the public actually knows the true merits of common brick, then will their manufacture take its rightful place and become the great building material industry of the age.

With that end in view let us press on to the goal, feeling that if we one and all but do our part, failure is impossible and success beyond our greatest hopes awaits our efforts.



Luxuries Get Capital and Labor that Should Go to Building Industries

In an address before real estate interests of New York, F. T. Miller, president of the F. W. Dodge Co., said: "One of the causes of the continued housing shortage in the United States is that the people are willing to pay more for labor, material and capital when delivered to them in the form of luxuries than when delivered to them in the form of housing and necessities.

"The allocation of labor, material and capital thru public demand seems to be quite as effective as the allocation of labor, material and capital by the government to the needs of war.

"The public will naturally turn to the state to limit the



Yankee Doodle House, as it is Known in Rensselaer, N. Y.

returns from buildings and thus will limit its own supply while bidding against itself for housing and the necessary elements to create houses and if no financial reverse occurs in the meantime to bring about an understanding of fundamentals, the public is likely to ask the government to engage directly in the housing business, for the housing shortage now existing is already reaching a condition of famine thru-

out the country. Any further industrial development in the United States will require about four or five thousand dollars spent for housing to each one thousand for factory construction. We must have more housing facilities if we have immigration.

"In Chicago there was forcibly presented an instance of allocation to the automobile industry. The building commissioner of Chicago reported that agents of the automobile companies were in touch with plate-glass insurance people and were getting broken plate-glass windows and that they were buying abandoned mirrors from bar rooms and that the automobile people had also bought two large plate-glass plants.

"The demand for sheet steel by the automobile industry has been so great that it has handicapped the expanded metal lath business and the price of wood lath has gone up from \$3.50 to \$23. It is said that almost the entire year's available supply of six-inch pipe has already been bought by the automobile industry. Labor, which formerly worked in the cement quarries in Bay City, Mich., in the summer and in the lumber camps in the winter, has gone to the automobile industry in Detroit. One automobile concern alone is handling ten cars a day of freight into Chicago, while the building industry cannot get roofing material thru to roof buildings partly constructed.

"One automobile concern alone has \$100,000,000 worth of building construction on hand, and while not deterred by the cost of construction has been obliged to abandon part of its program because it was found that one of its projects was drawing labor, material and capital from the other.

"It has been shown that the composite index figure on building materials has gone up 84 points during the last year, which is an increase equal to the increase during the entire five years of the war. From a basis of 100 at the beginning of the war it increased to 84 per cent. above pre-war levels in November, 1918, remaining at that level until March, 1919, and it now stands at 168 per cent. above pre-war levels.

"While this is likely to fall in sympathy with any reaction in general business and the cessation of the purchase of luxuries, it is unreasonable to expect that it will fall below the level of last March, particularly if freight rates are to be increased. It is reported that in order to pay 5½ per cent. on the capitalization of the railroads freight rates will have to be almost doubled. Freight on building materials has already been increased 50 per cent. and if it is now doubled that construction industry will be compelled to pay \$3 for freight compared with \$1 which it paid in June, 1918, and this will be a very large factor in keeping up the price of building materials."



NEW YORK LABOR PANIC UPSETS VISIONS *of* AB-NORMAL YEAR *in* BUILDING CONSTRUCTION

VISIONS of an abnormal building construction year are being eclipsed by the dark sphere of a labor panic, says the Dow Service report of March 29.

Stalwart leaders in the building industry already admit a probable shortage in actual building construction work in New York this year, to 30 per cent. for the total of 1916. The reasons given for this opinion center upon the labor panic that has seized upon the prospective builder of this year, building-subcontractor and the building material manufacturer. Architects whose experiences during the war convinced them that politicians can usually be depended upon to transform an industrial situation into a hopeless muddle by their well intended interference, point to the spectacle in Albany last week with the remark that "there goes seventy per cent. of this year's building construction program into discard."

HUDSON OPEN, NO DROP IN PRICES EXPECTED

The ice barrier in the Hudson will probably disappear this week, opening the market to the great Haverstraw and Newburgh common brick reserves. These reserves total about 180,000,000 brick—approximately four weeks' supply in a fairly normal market. Normally the breaking up of the ice barrier in the Hudson River means a drop in the price of common brick; but instead of there being a deluge of brick here the local supply may not be changed at all. Here is where the labor panic comes in. The bricklayers are on strike. Hardly any brick is being laid. To send this brick down the river, without a market for it, means a cost to the owner of \$12 a day, at dock, in addition to the usual maritime risks surrounding boats in harbor, not to mention a \$15 charge by the towing company every time a line is put over the bow.

It costs nothing to keep the loaded brick barges at the brickyard docks up the river, and the manufacturer therefore saves this cost by not rushing his brick into the market when he has no means of knowing what the demand for his product will be. The tendency, today, is for these manufacturers to keep their brick up the river until the bricklayers'

strike at least is settled or until the building market gets its stride. Incidentally this is their only chance to keep their promise to the financiers to use their best endeavors to keep the price of brick steady at present levels. If brick comes into New York and piles up demurrage against itself awaiting the bricklayers to go back to work there is no possibility of preventing the price of \$25, wholesale price level, advancing at least 20 per cent.

WAITING FOR MARKETS TO DEVELOP

Building construction, material and equipment companies who four weeks ago were very positive that they were going to have all the business they could possibly take care of in the building trades this year are not now quite so sure about it. Producers of basic commodities are following the policy of "waiting for markets to develop." They are not willing to quote far enough into the future to cover even moderate sized projects. There are several instances that might be cited to illustrate this tendency. For instance, there is no metal lath to be had even at this time excepting small stocks in dealers' hands. Manufacturers will not quote on their stocks that they have because automobile manufacturers are giving premiums of 20 cents over the present abnormally high mill prices for raw materials. All orders are taken subject to price at time of delivery, and in one instance, noted last week, one manufacturer offered a special lot to metal lath men in New York City at 6 cents over the present market price as a special favor. Current stock prices here as of this date are merely nominal. Holders can get what they care to ask for it. The average price base for No. 26, light, today is around 33 cents; 24, light, is 36 cents; 24, heavy, is 38 cents; 22 gauge is 42 cents for painted, and 50 cents for galvanized.

White plaster is already out of the market, and will be in this condition for the next six to eight weeks, the mills say. Manufacturers declare they have no white plaster to offer. Incidentally there is likely to be a change upward in rebate value of sacks from 15 to 25 cents. This ten cent advance represents a difference of \$2 a ton to the

consumer until he returns his sacks. There is no relief in the gypsum market from the railroad car shortage, which has forced shutdowns in the Buffalo district.

FACE BRICK PRICES ADVANCE

New face brick prices show advances. Kittanning smooth greys are now \$52, representing an increase of \$2. Smooth reds are quoted at \$52; salt glazed mediums and darks are now \$75 instead of \$60; Harvards are up \$10 a thousand. American size enameled brick are not being quoted.

The Alpha and Vulcanite Portland Cement companies advanced their wholesale price 10 cents a barrel last week. This change is not expected to be followed by other companies as the mark-up was made to offset the shipping costs favoring the Hudson river branches of these mills over the Lehigh district plants. There is plenty of cement at the mills but there are very few cars in which to ship it. In consequence the market is running low on this commodity.

The sand famine will probably be broken by the middle of the week as the Cow Bay and other Long Island banks are again in operation.

The New York Central and New Haven R. R. embargoes on lumber for New York were lifted upon the urgent representation of the Building Material Dealers' Association, to the extent of permitting four carloads of lath to come into this market where the scarcity of lath was making \$20 a thousand an easy price to get. All wire lath is in a nominal market, with prices uncertain to say the least.

Resolutions of British National Conference

National conference of manufacturers and producers convened by the Federation of British Industries adopted the following resolutions: That Government borrowing must cease forthwith and consideration of grandiose schemes be postponed; taxation must be reduced . . . a levy upon capital is opposed to best interests of the country; Excess Profits Duty was never scientific or equitable and is now out of date, any tax introduced in its place should be designed to inflict minimum possible hindrance to development of industry; present high prices of manufactured goods are inevitable so long as demand thruout the world remains so greatly in excess of supply; no attempt to fix prices or restrict profits by Government action can improve the situation; high profits are . . . the fund from which plant and working capital may be increased; . . . any attempt to impose state ownership or management on any branch of industry is contrary to national interest; since introduction of eight-hour shift, congestion of traffic on railways and consequent reduction of output has been acute; distribution of coal required for industry ought to be allowed to follow its natural course in satisfaction of industrial requirements.

* * *

L. E. White, of Princeton, W. Va., purchased the Douglas brick plant and will increase the capacity of same.



CURRENT PRICES *of* COMMON BUILDING BRICK *from* SEVENTY-THREE CITIES

INASMUCH AS considerable interest has been manifested recently in common brick prices thruout the country, it has been deemed wise to make a compilation of current quotations for the benefit of our readers. The prices which follow are reported as *delivered on the job*. They are, therefore, in the very nature of the case, higher than the plant price. This should be taken into consideration in examining them.

If for any reason these prices do not seem to be in line

with conditions as they exist in the towns enumerated, and furthermore, if you have any information that would tend to prove these prices to be incorrect the editors of *Brick and Clay Record* will be very glad to hear from you. These are, however, quotations which are being given at the present time by agencies selling brick in the towns mentioned.

The foot notes are explained at the end of the following tabulation:

COMMON BRICK	Per M		
Boston, Mass.	\$29.25	Washington, D. C.	24.50
Providence, R. I.	32.00*	Baltimore, Md.	24.00
Hartford, Conn.	30.00*	Richmond, Va.	25.00
New Haven, Conn.	35.00	Huntington, W. Va.	20.00
New York City	30.45	Fairmont, W. Va.	24.00
Albany, N. Y.	25.00	Wheeling, W. Va.	24.00
Syracuse, N. Y.	25.00	Atlanta, Ga.	18.00
Oswego, N. Y.	30.00	Miami, Fla.	36.00*
Binghamton, N. Y.	25.00	Tampa, Fla.	30.00
Elmira, N. Y.	30.00	Frankfort, Ky.	24.00
Rochester, N. Y.	19.50	Louisville, Ky.	20.00
Buffalo, N. Y.	26.00	Memphis, Tenn.	23.00
Jamestown, N. Y.	33.00	Nashville, Tenn.	19.50
Allentown, Pa.	16.00	Birmingham, Ala.	25.00
Erie, Pa.	22.00	New Orleans, La.	21.00*
Philadelphia, Pa.	24.00	El Paso, Tex.	18.00
Scranton, Pa.	25.00	Houston, Tex.	25.00*
Newark, N. J.	30.50	Dallas, Tex.	32.50
Paterson, N. J.	30.00	Topeka, Kans.	20.00
Trenton, N. J.	25.00	Little Rock, Ark.	18.00
Wilmington, Del.	23.00	Oklahoma City, Okla.	22.50
		Cincinnati, Ohio	21.00
		Cleveland, Ohio	22.00
		Columbus, Ohio	28.00†
		Detroit, Mich.	22.00
		Evansville, Ind.	15.25
		Fort Wayne, Ind.	20.00
		Indianapolis, Ind.	22.00
		South Bend, Ind.	21.00
		Terra Haute, Ind.	19.00
		Bloomington, Ill.	22.00
		Chicago, Ill.	14.00
		Moline, Ill.	22.00
		Green Bay, Wis.	24.00
		Milwaukee, Wis.	17.00
		Minneapolis, Minn.	22.00‡
		St. Paul, Minn.	22.00
		Davenport, Iowa	25.00
		Des Moines, Iowa	31.00
		Sioux City, Iowa	19.50
		St. Louis, Mo.	20.00
		Lincoln, Neb.	19.00
		Denver, Colo.	17.00
		Los Angeles, Cal.	12.50
		San Diego, Cal.	17.00‡
		San Francisco, Cal.	17.50
		Portland, Ore.	20.00
		Seattle, Wash.	17.50
		Winnipeg, Man.	20.00
		Toronto, Ont.	18.00
		Halifax, N. S.	19.50
		Quebec, Que.	17.00

*Hartford, sold by mfrs. only; minimum price. Providence, price at yard, \$28 to \$35.

†Mfrs. price. Houston, another dealer quotes \$22.

‡Also quoted \$30 Columbus.

‡Also quoted \$18 at Minneapolis.

‡Carlot rate, San Diego.

The BUILDING SUPPLY DEALER

a NECESSARY FACTOR in the DIS- TRIBUTION *of* HOLLOW TILE

"You Have, As I See It, Three Things to Work Out—Your Industry Stands First, Your Trade-Marks Second, and in Order to Sell Your Product at the Lowest Selling Point, You Have to Sell Thru Dealers for Economy and You Have Got to Know That Those Points of Contact Are Educated to Your Point of View."

By Thomas E. Wright

Former Secretary of the New York Builders' Supply Association. A Talk Made Before the Annual Meeting of the Hollow Building Tile Association, Chicago, Ill., March 24 and 25, 1920

THERE BEGINS AT BUFFALO and goes thruout the great state of New York a body of men known as the supply dealers of the state of New York. They are pretty, good fellows. I know them all personally, I think, each and every one. I know their credit ratings. I know how many are in their firms. I know perhaps as much about most of their businesses as they know, and perhaps a little more. I have helped some of them get onto their feet, some of them to organize their credits, some of them to cut off some of their bad creditors, and in other words to get them to be representative men in their local communities.

DEALER A POINT OF CONTACT

My idea of the building supply dealer is that he is the point of contact. There is no building supply dealer that I know of in the state of New York, if he is worthy of the name, but what is there on account of the service that he can give to the public. **Take the matter of service away from a supply dealer and he has absolutely no reason to be on earth or to be in business as such.** If he is worthy of the business which he is endeavoring to transact he is a power in his community. He, by reason of his standing and his business, has to know the politics, he has to know the charities and charitableness of that city, he has to know the unions, he has to know the thousand and one things that make for success in business. With that knowledge and with a little inherent pride in his calling—our supply dealers are getting used to having a pride in their business, thank you—he becomes a power and he is the point of contact between you fellows, or any other manufacturer, and the consuming public. That is the way I look at a building supply dealer.

NO VELVET IN DEALERS' BUSINESS

We have as the bane of the building supply business up to the year 1920, the same industry which for a long time refused to acknowledge the supply dealer people as a means to an end. The carload business they wanted themselves. The wheelbarrow business the building supply dealer could have. In time, the building supply dealer came out of that little hypnotic trance that he was in and began to assert himself, and he came together in an association and said, "I am a man, I have certain rights in a community and I demand those rights. I am not here to

take the bickerings. I am here to transact business and stand four-square to the world." And when we began to get his credit standing up, he stood. It has been said by some manufacturers that if a building supply dealer did a car-load business that was "velvet." Let me tell you, forget it. There is no velvet in the building supply trade. I have gone over the books of a great many building supply firms and I tell you now honestly and candidly if on a certain day or a certain week in a certain month they were to compel the men on their books to settle in



THOMAS E. WRIGHT

full ninety-five per cent. of the men on their books would be bankrupt. There is no building supply man that can take his books into his banker and say "I want a loan on that." The banker would say, "You are crazy." And still

those are the men who are disposing of your material, other manufacturers' material and building up a city.

I don't think I know of a building supply man in the state of New York worthy of the name but what takes a pride in the materials that he sells. It is a pride after he has been in business a few years to go thru the streets of his city and see a factory, see school houses, churches, residences, built of material that he has faith in and he feels that he brought that material into that town, he urged the sale of it and it stands in a way as a monument to himself. The building supply dealers are getting so they have that feeling.

THE SALES ENGINEER

Another thing, building supply dealers, especially the larger ones, have in their employ today engineers. It is true we call them selling engineers, but they generally are better engineers than the big contracting firms have, than the architect's offices have, or consulting engineers have because they go into more detail. They don't specialize along one line. If your product is to be marketed successfully thru building supply dealers you will have to co-operate with that engineer. For instance, in our Buffalo office we have an engineer, and I have noticed this peculiarity. When the matter of a building is brought in to him or a request for a set of plans, he thinks right away of re-enforced concrete. I said to him a while ago, "Jack, why re-enforced concrete?" "Why, I don't know. That is what we sell, isn't it?"

"Take your pencil and paper and do a little figuring on profits and see if you can't find something that we sell that makes just as good a building that makes the firm a little more money. That is what I am interested in." He did, and we had quite a consultation.

WHY HE THOUGHT OF CEMENT

Now, why did he think of cement which has been the bugaboo of the building supply trade? Simply this: The cement industry when they saw the error of their ways began to get together. They began to drive to the building supply dealer to market their material. Company after company began pushing their sales thru the building supply dealer. While he is not paid enough by far on the differential that he gets, still it was the one material that he had on which he had dealer representation. That is why he sold it.

I have been out to many a little dealer who has to be everything in a town of five, six or seven hundred inhabitants up to fifteen hundred, and the minute a farmer comes in and talks to that dealer about building, the dealer says at once "cement." Why? It is the one thing that has been hammered into him by advertising, by salesmen, by a thousand and one methods "Concrete For the Farm." That is why he is selling it. The cement industry—I am going to use that term for a little while—reached a stage where they could not sell their output in car-load lots and were forced to recognize the dealer to get rid of the output. To that end they came into associations and began to push it out in the various methods of marketing and they have been highly successful.

There was a time when every farmer was led to believe that if he had a shovel and a little elbow grease, some gravel and sand, he could build things out of concrete, and he did. Some of it is good, some of it is bad, but he began educating himself and the cement industry began to move out on the farm.

IMPROVING THE DEALER'S CREDIT

The building supply dealer has to act as banker, has to act as advisor, has to get sets of plans for his clients, has to arrange mortgages, has to see in lots of cases that the

interest payments are made on those mortgages, and I have yet to see any place in the building supply trade where there is much "velvet." It is only a matter of four or five years ago, I don't know but what it is less than that, that an actuary of a big manufacturing firm told me that only fifty per cent. of the building supply dealers in the state of New York had a credit that they would ship to. Last year in spite of adverse conditions he told me that ninety-one per cent. of the dealers in the state of New York could be shipped to. Confidence in financial circles had come down. That is due to association meetings, manufacturers coming in and meeting with the dealers and the dealers establishing themselves on a foundation that was secure and not really doing all the banking that the banks should do, and conducting business in an efficient manner.

THE POSSIBILITIES FOR HOLLOW TILE WITH THE DEALER

The next point. I wonder how many of you fellows—I am going to talk about your business a minute—have ever sat down with your pencil and paper and figured out what the scope of the hollow tile could be if pushed somewhere near its capacity. Supposing the fact—I see your Secretary is going at it that way as I read the papers and the journals once in a while—supposing that you began to emulate the cement companies in a way and put out your advertising, that you went to your dealers and talked hollow tile and the dealer instead of saying in a great many instances "use cement" would say "use hollow tile," *suppose every dealer in the state of New York built one building each year out of hollow tile, 1,184 new buildings of hollow tile would go up in the state of New York alone?* Did you ever stop to think of it? That is one building, and I don't know of any farm building—and I own a farm—but what can be built out of hollow tile to the vast improvement of every farm in the state of New York.

LUMBER ON THE DECLINE

There is one big industry that is going out of business, the handwriting is on the wall, and that is the lumber industry, and yet the lumber industry is on such a plane that they have the building business by the scruff of the neck, and they are hanging on to it. Their prices are going up. The supply of raw material is growing less. What is going to take its place? Hollow tile, if you fellows will let it. Hollow tile, if you will put the energy into the dealer to sell your material, and it will be of benefit to you and of benefit to the building supply dealer.

MUST DO BUSINESS IN MODERN WAY

There is a new way. We are living in a new world. We are in a new age. What it is going to be no man can tell, but this much is sure that we have reached a new era in the marketing of materials. He who would sit back and say I am going to market my materials the way I have always marketed them better sell out while he has got some money coming. You can no more do business today the way you did it in 1914 than anything imaginable. There is a new demand, there is a new force, there is a new capitalization, there is a new value, there is a new way of marketing goods. The building supply dealer and the manufacturer have got to realize that and work in common.

I have often wondered as I have been in dealers' offices and listened to salesmen come in and talk their various wares if the manufacturer or sales manager knew what that salesman was doing. You are no different from any other industry. You have got to work for the common good of the hollow tile business or the clay goods lines. Brands must be forgotten. You are boosting an industry, an art, and one of the oldest known arts that there is. Isolated,

alone, dependent on your own efforts, you will get nowhere; combine as an association with an effective method, with an advertising scheme well laid out and selling basis planned out as an industry, and the world is yours.

THE QUESTION OF BRANDS

I was interested yesterday just before I left home to come to Chicago in going out with one of our salesmen to see an engineer and an owner of the building. He said "I don't think we stand much chance, but I am going to try it, because there is a certain brand of hollow tile that is specified." I went along. I like to hear a salesman. I love to sell. I like to overcome an argument. The stronger the opposition the more at home I feel, and I like to be with a salesman that can meet an emergency honestly and squarely without any subterfuge. We went into that engineer's office, architect's office, and when we went in here was the salesman from a competing firm who had succeeded in having his brand of hollow tile specified. The owner was there. The first thing that was said to my salesman was, "Do you sell" mentioning this brand? "No." "Well, that is what is specified." "Yes, I know it." The architect said, "I want that particular brand because I know it." "Well, I have a brand just as good." "Well, what have you got?" "Master Tile," and before my salesman got thru he had the order. I don't know whether we are going to ship it. That is up to you fellows.

TRADE NAME WILL ADVANCE INDUSTRY

But in the cement world today there is no architect that dares specify, if he wants to keep his standing in his community, a certain brand of cement. You know the minute he does it, we wonder who lined his pocket and we look at the fellow who is carrying that brand of cement and grin and wonder if he has spent all his profits in getting the architect to specify that brand, because there is a standard specification, and the contractor does not care what brand comes on the job as long as the color is somewhere near the same. That is going to be pretty nearly the same with hollow tile. As long as it will fill certain specifications and do certain things a trade name is going to sell and advance the whole industry of hollow tile manufacture. That is as sure as you and I are here, because I have watched it being tried out steadily. Gentlemen, you have an industry that is going to be as big as you make it. There is absolutely no use of your coming into this Association and thinking you are going to take out more than you give. That is a fallacy. You can't go into anything and take out more than you give. There is no use of your going into an engineer's office and saying, "My plant is the oldest plant and therefore I have the best material." I heard a fellow say once that it didn't make a bit of difference whether your ancestors came over in the Mayflower or in the cauliflower as long as you made good, and he is pretty nearly right. The same thing is true that it is a fine thing to have a family tree if you don't go to sleep in the shade of it.

THE MERITS OF HOLLOW TILE

That is what is liable to happen to the hollow tile business if you don't watch out. It is a wonderful industry, it is an industry that you should be proud of and that I, as a supply dealer should be proud of because it furnishes our clients something that will last, that will be fire-proof, that will make a building that is worthy of your efforts and my efforts and his money. Can any man who wants to build anything ask for anything more? It is economical. If you were figuring building after building you would soon begin to arrive at what you want to sell. The next thing is, is that going to pay you to sell it? You are going to bring your efforts right along that line.

THE PRODUCER AND THE SALESMAN

Out in the Hood River Valley where they grow wonderful apples the man that grows the apples is not allowed to sell them. They sell thru an exchange, and the fellow that grows those apples goes into that exchange, after he has thinned his blossoms and his apples start to grow and he has thinned his apples so that one apple does not hang against the other and is out to the light of God's own sunshine for coloring, and he says to the exchange, I am going to have 10,000 boxes of apples, and he names the kind, and immediately the exchange puts down that John Jones is going to bring in 10,000 boxes of apples, and they go out and sell them.

There is no producer that was ever a good salesman.

There never was a salesman that could make a manufacturer.

WHERE THE DEALER COMES IN

A salesman is a peculiar combination. He is like an actor or actress—flighty. He works a few hours a day and he puts in the best he has got. He doesn't want to be touched outside of that. The manufacturer gets up early and he works late and is plodding all the while with his raw materials. He is in no shape to go in to talk to somebody that is going to ask him technical questions. He may know but he can't answer them. Now it is the combination of those things, using the dealer as the point of contact, that is going to increase your business and the dealer's business. And why not? It is one of the best things in the world.

FROM SELLER'S TO BUYER'S MARKET

An organization to be put over and put over successfully has got to have some brains behind it, has got to have some stamina behind it, has got to have some life. You have a secretary. I can tell you that by reading your ads, by looking at the things coming out, because this market is going to change from a buyer's market to a seller's market and we are pretty nearly on the threshold of that moment now. I take it that your Secretary who has the managing end of your industry is looking ahead to that time when he will have reached it. You have got more orders than you can fill, more orders than you can ship.

But there is going to come a time, and it looks now as tho it would come this year, when you will have to begin going afield for orders. I am going to some of you fellows today and am asking you to please ship me an order. Instead of having salesmen come in to see me, I am going out to see you fellows and am asking you if you can't *please* ship an order, and when that time changes we will begin to show the strength of your organization, the breadth on which you are building, and whether you have got the "bottom" to put over a big thing or not.

THE MENACE OF LABOR'S DEMANDS

Now if when I leave you, you say, "Wright has not convinced me" I will agree with you because that is simply my point of view. I try to listen to every man that comes my way. I go out of my way to meet them, to get their points of view and contact. I try to read everything that comes along. I have a girl down in my office that makes clippings that she keeps in front of me so I will be in touch with this, that and the other because I feel it is vitally necessary if I put over my corporation the way I want to put it over. I sit down once a day to chat with my salesmen and engineers to know if we have our pulse on things and down in my town of Rochester they have withdrawn building permits amounting to over seven million dollars and the wheels of industry are dead in your line and my line as far as Rochester goes *because beginning the first day of April labor is making demands that nobody can meet.*

(Concluded on Page 742)

*A*nnouncing the **CERAMIC**

CLAY DRY

P

ROCTOR & SCHWARTZ, Inc.—
Formerly the Philadelphia Textile Machinery Company—Manufacturers of “PROCTOR” Dryers—have purchased the plant, equipment and good will of

CERAMIC EQUIPMENT COMPANY

Clay Drying Specialists

Trenton - - New Jersey



EUGENE A. HULTS

President and Managing Director

This company will continue as a separate organization, the manufacture and sale of

AUTOMATIC STOVE ROOMS AND MANGLES—CONDITIONING EQUIPMENT—CONTINUOUS AUTOMATIC SAGGER DRYERS AND SPECIAL EQUIPMENT FOR DRYING Pottery, Electric Porcelain, Abrasive Products and General Ware.

Reorganization of **CERAMIC EQUIPMENT CO.** **DRYING SPECIALISTS**

This company is now under the direct management of EUGENE A. HULTS, President and Managing Director. Mr. Hults needs no introduction to the Ceramic industry, having for nearly four years acted as Secretary and Manager of the North Iowa Brick & Tile Company, Mason City, Iowa, where he made an enviable reputation as a progressive, all-around clay products manufacturer. Mr. Hults is a graduate electrical and chemical engineer—Pratt and Columbia universities. He spent nearly three years in government service during the war, and now returns to the industry to help others solve their difficult drying problems.

A large number of successful installations have been made during the past year by the Ceramic Equipment Company, and without a single exception, these installations are doing everything promised.

A better quality of ware is produced—breakage and loss cut to a minimum—and drying time and labor costs greatly reduced.

The 35 years of technical, designing, constructing, and operating experience of Proctor & Schwartz, Inc., on drying problems and dryers; together with the broad, practical, and thorough experience of the personnel of our company in the Clay and Ceramic industries, places the Ceramic Equipment Company in a position to render you a service of marked strength.

We stand on our record of actual accomplishments—we are ready to have our Engineering Department study *your* drying problems, and to lay a proposition before you.

Will you let us co-operate with you?

CERAMIC EQUIPMENT CO.
TRENTON, NEW JERSEY

(Continued from Page 739)

George Eastman whom you all may know, of kodak fame, is putting in over two million dollars' worth of work in his plant alone. He has cancelled his permits, laid off his men, and he is building besides that, for the city of Rochester, a million and a half dollar music hall; he is adding to our Chamber of Commerce down there a million dollar building which is put to one side and permits withdrawn. Work on our big factories and schools is dead. Why? Because of the labor situation. It is serious. It is abroad in the land. It calls on every man that has the good of this country ahead of him to awake and read the signs, feel for his industry, feel for that in which not only he but his loved ones are interested for the future, and make his decision. It is a time for organization, not for individual effort. It is a time for deep thinking, not hilarity. It is a time for serious-

ness, not for levity. You can't work it out alone, I can't work it out alone, but all of us together can pull it thru.

Gentlemen, as I said in the beginning, maybe I have not convinced you, but I leave this thought. *Your business will be better if you work with me, my business will be better if I work with you*, and I think I can speak for the building supply dealers of the state of New York, as I know them all intimately, when I say they will welcome you to meet with them in their meetings, to counsel with them and to work with you. They meet every month and if when they meet with them in their meetings, to counsel with them and to hollow tile fellows are with us not only in their industry but with their hearts and their plants and their business, then you will begin to grow, then we will begin to grow and your Secretary will have an easier time and our lives will be better.



A UNIQUE HOLLOW TILE ADVERTISEMENT in a LUMBER JOURNAL

THE HEIGHT to which lumber prices have soared during the past year is a matter of common knowledge but it should be more than a mere fact to the wide awake clay products manufacturer—it should be a signal to go after a lot of business which formerly went to lumber but

which now can be switched from frame to clay products on the present highly favorable basis of price.

The Fraser Brick Co., of Dallas, Texas, manufacturers of hollow clay building tile, are not only aware of this situation but they are up and doing. In the March 15 issue of the "Gulf Coast Lumberman," appeared a double page spread advertisement signed by this company. It is in the form of a statement to lumber and building material dealers.

THE GULF COAST LUMBERMAN
March 15, 1920

A Statement to Lumber and Building Material Dealers

In order to clearly establish the position of this company with regard to so-called "high prices" of building materials, the following facts and figures are published:

WE manufacture FRASERCLAY INTERLOCKING TILE—a load-bearing wall building material made of burnt clay.

During the last three years it has been necessary for us to raise the price of this material several times.

BUT AT NO TIME HAS ANY ATTEMPT BEEN MADE TO ASK "SHORT SUPPLY" PRICES! Interlocking Tile prices are, have been, and always will be, based on ACTUAL PRODUCTION COSTS—and higher only when costs are higher. This despite the fact that the demand for the material has been so overwhelming that we could have secured almost any price that we might have asked.

Efficient plant management, coupled with the increased volume that has come each year as the public became more and more convinced of the superiority of this material, have enabled us to maintain price advances within very conservative lines, as the following figures will prove:

Period	Advance
Advance, May, 1918, over May, 1917	11.9%
Advance, May, 1919, over May, 1918	18.3%
Advance, November, 1919, over May, 1919	16.9%

(These figures based on net returns to us, exclusive of freight allowance.)

There has been no advance in Interlocking Tile prices since November 1919.

These figures are interesting particularly in view of the fact that prices of some of the materials usually displaced by Interlocking Tile (and made of the same basic material by the same general process) have advanced as much as 400% during the same period—and you and the public are apt, without definite figures before you, to incorrectly assume that Interlocking Tile prices have kept up the same pace.

Increased Production Means Decreased Costs

Double Saving Now Possible

IN years past, when Interlocking Tile cost the builder 30% to 50% MORE than its equivalent in other materials, its sales made rapid headway because of the better wall it constructed and because of the saving in labor and mortar costs effected through its use.

Therefore it is not surprising that Interlocking Tile, at its low price, is enjoying such a tremendous demand, especially as its saving in erection costs can now be added to a distinct saving in the price of the material itself!

Those materials on which the price has been inflated because of abnormal demand and short supply made such inflation possible must and will come down. Interlocking Tile will have no such competition to make, because Interlocking Tile prices contain no inflation to be taken out!

Architects, contractors and prospective builders are invited to make minute comparisons between the price of Interlocking Tile and the prices of other wall-building materials. In this way the total absence of inflation in Interlocking Tile prices can be conclusively proven.

We know of no other company in our line which follows our policy of marketing its products through the local dealer. YOU are our sales force. We appeal to you to help us get the above important information to YOUR architects, contractors and consumers.

What other material could you sell to your customers with such assurance that they could gain nothing by "waiting awhile"? What other material can you invest your money in for stock with such certainty of STABLE VALUE?

A Good Buy For Both Dealer And Consumer

General Offices SUMMITER BUILDING PLANTS THROUGHOUT THE STATE

Fraser Brick Company

Dallas, Texas

Double Page Advertisement Which Appeared in the "Gulf Coast Lumberman" on March 15.

So much is being said everywhere about the "high cost of building materials" that this firm has been advertising, not only to the dealer thru this journal, but to the consumer thru the daily papers in the southwestern territory, advising every one that so far as they are concerned, building material is not comparatively high. According to their figures, there have been advances in the price of their tile since the big war started but the total of these advances is one hundred per cent. which compared with the advances in price of most of our living commodities is NOT great but rather very low. It costs just one hundred per cent. more to build a tile wall today, for the material, than it did five years ago.

The advertisement calls attention to the fact that while other materials have gone "sky high" the hollow tile made by the Fraser company is still being sold at a price based on actual cost of production. "At no time," says the company, "has any attempt been made to ask 'short supply' prices."

"What other material," reads the advertisement, "would you sell to your customers with such assurance that they can gain anything by 'waiting a while?' What other material can you invest your money in for stock with such certainty of stable value?"

Here the Fraser Brick Co. makes a very good point—if there has been no inflation in their prices there is no counteracting deflation to fear, and the buyer can be assured that the price will not break under him.



America's Opportunity

Thinking that it may be of interest to the readers of the "Anchor" I shall try to describe the economic conditions of Europe as I saw them in my very short stay and to tell the opinion I gained of our opportunities in America. When all is said and done the one thing that makes a country, a community or an individual company successful or not is the ability and willingness of its people to work. And right there is the serious problem that all European countries are facing today. The working people, those who actually produce the commodities necessary to the existence of the nation, have neither the ability nor the willingness for work that they had prior to the war.

I do not mean this as a criticism or as a reflection on their loyalty. The tremendous loss of man-power thru casualties and the terrible strain of years of war are responsible. I am referring now particularly to England, France, Belgium and Italy. There are still different conditions existing in Germany and Austria and again different in the neutral countries, such as Holland, Norway, Sweden, Spain, etc. Of all the European countries France has suffered most. Belgium also suffered terribly from devastation, but in France the proportions are much greater.

It is impossible for me to describe the horrible wreckage in Northern France and parts of Belgium and I shall not attempt to do it. Whole towns and cities are completely destroyed and hundreds of factories so demolished that now, more than a year after the close of the war, they are unable to produce more than a small percentage of their pre-war capacity. This serious curtailment of production is added to by the fact that materials of all kinds are very scarce, for all industries are affected alike. Probably the worst condition is the shortage of coal. While I was in Paris there were no electric lights on the streets and the only illumination was small old-fashioned gas lamps. You can see from this that it is impossible for factories to get sufficient coal even tho other conditions were more favorable.

But they are not. France lost very heavily in man-power during the war, and while the women of the country have done wonderful work there is still a serious labor shortage.

But even worse than this is the extremely low production per man that is being turned out. They are tired and weary after so many years of war and cannot seem to get themselves adjusted to their old work. England is somewhat better off than France, because the war was not fought on her soil. But in all other respects the conditions in the two countries are about the same.

While I did not visit Germany and Austria, I have had numerous opportunities to talk with people who had just come from there. The conditions in these countries, and many others, are appalling. The value of their money had so depreciated that every commodity has increased in price many times what it was a few years ago. A German mark before the war was worth 24 cents in our money. Today it is worth about one cent, and will probably go lower. In Austria the loss in the value of their money is even greater. Our commodity prices in America have advanced about 100 per cent. or double pre-war. In England it is about 135 per cent., France even more and in Germany and Austria probably 400 or 500 per cent.

It will readily be seen from this that it will take Germany many years to become a large factor in the world trade again. It is undoubtedly true, however, that her people are working harder than those in the other European countries and so they may surprise us unless we carefully guard our own position. It is very difficult for Germany to get her production up, because she is short of all kinds of raw materials and also food stuffs. Low production can only mean one thing, high costs. And naturally high costs mean high living costs. The working people find their expenses continually mounting and so they continue to demand higher wages. They get the higher wages but it does them no good because that only increases the cost of living. The whole procedure is like a dog chasing its tail around. Higher wages are not going to remedy the trouble if they, in turn, cause higher living costs. The only remedy is to bring down the cost of living by increasing production, and thereby increase the purchasing power of the wages.

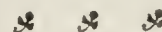
And right here lies America's opportunity. As I have said, our living cost has not increased as much as it has in any of the European countries. Consequently our cost of production has not increased as much as theirs. If we can maintain this position we should be able to compete with them now, whereas before the war their costs in almost all lines were far below ours. That means that foreign goods cannot be sold as freely in America and it also means that our manufacturers will have a better opportunity to sell their merchandise in South and Central America. Such a condition would mean a greater prosperity than we have ever known.

The entire question rests on the attitude that the working people of America are going to take. They are the ones who are going to decide whether America is going to grasp her opportunity or not. If we can end our industrial strife and increase production we shall grasp it. If we continually have strikes and the consequent curtailment of production, then we are not going to grasp it. I do not advocate low wages. On the contrary, I advocate high wages. But if high wages cut down production instead of increasing it then they can't continue for long.

America's opportunity is greater now than ever before and I believe that all real Americans are going to do their part to grasp it and continue and even increase the prosperity that we now enjoy.—H. S. Maddock, of the Thomas Maddock's Sons Co., Trenton, N. J.



The National Fireproofing Co., Pittsburgh, Pa., is declining all contracts calling for deliveries earlier than six months.



Belgo Ceramic (Reg.), Montreal, has been registered.

AMONG *the* POTTERIES

John E. Hill, Trenton, N. J., died at his home in that city on March 24, aged 72 years; he is said to have been the oldest presser of sanitary ware in the city.



The Bowers Pottery Co., Mannington, W. Va., manufacturer of sanitary ware, is planning for the erection of a large addition to its plant, to include about 10 kilns.



The H. & K. Electric Porcelain Co., Trenton, N. J., has been organized with a capital of \$10,000 to operate a local plant. Joseph H. Meadow, D. Edward Guilfoyle and Manley J. Greenwald, Trenton, head the company.



The W. S. George Pottery Co., East Palestine, Ohio, is planning for the erection of a new five-kiln plant. The structure will replace the pottery destroyed by fire some time ago. Branch potteries are operated at Canonsburg and Kittanning, Pa.



Carl Anderson Retires from Panama Pottery

Carl Anderson has retired from the Panama Pottery Co., of Sacramento, Cal. The business will be carried on in the future by Andy Anderson, Gustaf Johnson and Victor Axelsson.



New Crockery Concern Incorporates

The Berkshire Crockery Co., of Boston, Mass., has been incorporated to manufacture crockery. The concern has an authorized capital of \$50,000, and the incorporators are Oscar W. Haussermann, of Cambridge; V. Maude Kempton, of Winthrop and George C. Cutler, Jr., of Brookline, Mass.



\$250,000 Pottery Incorporates in Alameda

The Tri-State Pottery Co., has incorporated in Alameda with a capitalization of \$250,000 for the purpose of engaging in the manufacturing of pottery, chinaware and pipe. Oakland has been designated as the principal place of business of the company. The incorporators of the new concern are S. P. Deasy, of Richmond, George W. Bradley and George W. Walley of Berkeley, J. C. Newcomb of Alameda, and C. H. Gunn and F. O. Newbaker of Oakland.



Potteries Expanding—Build Additions

General expansion is under way at a number of the potteries at Trenton, N. J., including the erection of additions to allow for increased output. Lennox, Inc., manufacturer of high-grade chinaware, has arranged for the erection of a large addition to its plant at Mead and Prince Streets, to cost about \$200,000. Three buildings will be erected, of three, two and one-story heights, respectively, and of brick, hollow tile and concrete construction. The structures will be connected for interior communication; they will be of a size, 40x75 ft., 20x400 ft., and 100x394 ft., in the order noted. The three-story building will be used for a decorating department, office purposes and a show room; the two-story structure will be equipped as a large studio, while the one-story building will be used for general production; the Karno-Smith Co., Trenton, has the building contract, associated with Carp & Mason. The Trenton Porcelain Co., is

taking bids for the erection of its proposed new one and two-story plant at New Brunswick, N. J.; the company specializes in the manufacture of electrical porcelain specialties. The Star Porcelain Co., Muirheid Avenue, has construction under way on a two-story brick addition, 40x60 ft., for use in connection with its electrical porcelain manufacture. The National Porcelain Co., Southard Street, manufacturer of electrical porcelain specialties, will build a two-story addition, 51x70 ft., for increased production; the building will comprise a factory and shed department, and a new kiln will be erected.



Pottery Plants Expanding Rapidly

Not in a decade or more has there been such activity in new pottery construction as is the case this year. Those contemplating erecting new plants point to the fact that because of the scarcity of imported dinnerware the product of American manufacturers has become so deep rooted that the demand will continue to increase for years to come. It is also pointed out that if any surplus of American ware is created by increased importations, this surplus will be absorbed by the ever increasing growth of the United States.

The shortage of semi-porcelain ware today is the most acute in the history of the trade. For about three months pottery plants in the Ohio Valley were able to operate only on reduced schedules on account of the scarcity of fuel. This loss in production has been felt most keenly by manufacturers, workers and buyers. In the end, this production loss will be reflected in the value of ware manufactured during the fiscal year.

The most recent announcement of new pottery construction is that made by Sol Ostrow, William R. Scraggs and Louis F. Groglode, of East Liverpool, Ohio, who have formed the Hopewell China Co., and will operate at Hopewell, Va. Contracts for machinery and other plant equipment have been placed. This plant will have a capacity of seven kilns, and is the second general ware pottery plant to be built south of the Mason-Dixon line. The first was built at Erwin, Tenn., under the direction of Edward J. Owen, formerly of this city.

One operating interest in East Liverpool is contemplating the erection of a second plant, while two other unrelated interests are about to apply for charters. Plans of one of these interests indicate a nine-kiln pottery will be built, probably in an eastern district, while the other interests contemplate building a nine-kiln plant in the western part of Ohio.

Old fashioned yellow ware seems to be once again coming into its own, and ten kilns have just been added to this particular line.

Fireproof cooking ware, one of the newer ceramic lines to be made here to take the place of the imported German and French lines will have nine kilns added to the capacity of the present production at once. Former importers of these lines now indicate that American manufacturers control the situation. Chemical porcelain products are now manufactured here in greater volume than ever.



Vision multiplied by hard work has been responsible for the success of ninety-five per cent. of the men who have made their mark in every department of human activity. Vision must come first. Concentration and hard work logically follow. This is just as true of the clay products business as of every other branch of human activity.

The SUPERINTENDENT

Helpful Hints for Practical Men
Whose Problem is Maximum
Production With Minimum Cost

A Point on Transferring Clay Ware

Those plants that are confronted with the problem of how to solve the wheeling and handling of clay ware might be interested in getting the following slant on the scheme of using industrial trucks for relief of such conditions. That which is quoted below is taken from a letter received from E. D. Mattes, general manager of the Decatur (Ill.) Brick Manufacturing Co., in answer to an inquiry concerning the use of mechanical means for transferring brick about the plant. He states, "Last summer we installed an automatic lift truck which has the capacity of conveying about 400 brick at a time, and we have had this truck in use in a very satisfactory way ever since.

"Roughly speaking, we would say this truck is not a money saver, but a money maker. If it were possible to secure wheelers the same work might be done for less money, altho the truck is responsible for increasing our capacity and has a wonderful moral effect which we believe is well worth the investment. We are well satisfied with the results we have obtained, altho such a truck would not be adapted for all brick plants, as it is quite necessary to have a very good foundation for the truck to travel on. Otherwise it would be a complete failure."

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A Cheap Brick Oil

We are indebted to Eben Rodgers, of the Alton (Ill.) Brick Co., for this bit of information regarding brick oil. A very satisfactory brick oil may be obtained by mixing three parts of coal oil with one part of machine castor—a mixture which makes a very cheap oil.

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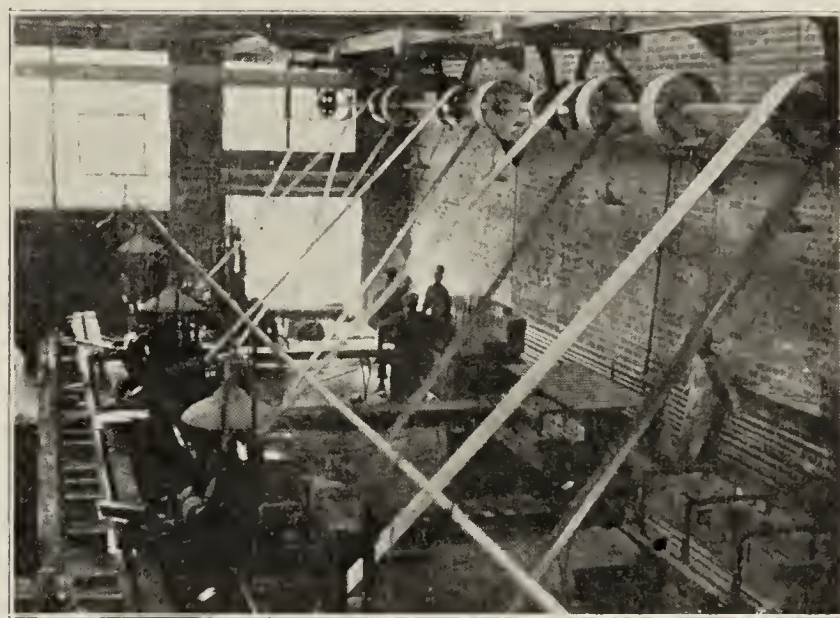
How to Dispose of Repress Wastage

There are several matters of interest in connection with the accompanying photograph, which was taken at the plant of the Walsh Fire Clay Products Co., at Vandalia, Mo. The arrangement of the line shaft and belting, the steam pipe coils along the wall, the arrangement of the lights above each repress machine and off-bearing table and the large amount of window space, are a few points about which much can be said in commendation of the general design of the machine room here illustrated.

Our main object, however, in calling your attention to this photograph, which, by the way, was taken with a small cheap camera in the natural light of the room, and without the aid of a flashlight, is to point out the scheme used to dispose of the imperfect brick which may come from the repress machines. Holes in the floor have been made so that there is one directly under the end of the off-bearing table of each of the repress machines. Thus the spoiled ware need not be touched, but simply falls into the hole and on to a conveyor, which returns it to the pug mills.

It is obvious that this plan of disposing of the defective ware is many times better than that which is sometimes resorted to, namely, the actual handling of the material either

by requiring the off-bearers to throw the damaged material into a pile which is afterward brought to the pug mill by



Machine Room at the Plant of the Walsh Fire Clay Products Co., Vandalia, Mo.

wheelbarrow or by at least permitting the wastage to accumulate into a pile which is later shoveled into a wheelbarrow and carted to the pug mill.

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Pacific Coast Clayworker Delivers Interesting Opinion on Chinese Labor Question

We are in receipt of the following letter from a Pacific Coast clay products manufacturer which was received too late to be included in the symposium which appeared in the February 24 issue of *Brick and Clay Record*. This manufacturer writes:

"Regarding the question of Asiatic labor, we would state that this is a subject that every employer on the Pacific Coast is familiar with.

"There are but few employers of labor who would not welcome the Chinaman as an addition to the laboring element on this Coast. Such a strong fight has been made, however, against their admission by the labor unions here that it is rather a sore subject.

"The writer personally has employed and handled many Chinamen and has no hesitancy in saying that, for some classes of labor, they are unequaled. We firmly believe that it would be of tremendous economic advantage to permit a limited number of Chinese coolies to come to the United States as laborers, and we wish some way could be devised to have them brought here. They would be most excellent laborers in a clay plant, as they are specially fitted for that character of work. They are faithful, industrious and reliable and far excel the present class of labor we now have to employ."

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The H. W. Bell Co., Park Avenue, New York, manufacturer of fireproofing products, has increased its capital from \$100,000 to \$150,000, for proposed expansion.

IN *the* WAKE *of the* NEWS

Being a Brief Mention of a Host of Interesting Happenings in the Varied Fields of the Clayworking Industry

Death Takes Senior Member of Firm

The Geijsbeek Engineering Co., Portland, Ore., have recently been unfortunate in losing thru death the senior member of the firm, Mr. Dirk Geijsbeek Molenaar.

Beamsville Brick Man Passes On

George A. Crain died on March 23 at the age of seventy-nine. He was a contractor in Ottawa and Brockville, Ont., until about ten years ago. Since then he has been operating the Beamsville (Ont.) Brick & Tile Co., of which he was proprietor.

Abandon Two Cases of Whiskey and Flee

Julius S. Walsh, president of the Walsh Fire Clay Products Co., St. Louis, Mo., was the hero of an encounter with burglars recently when he stood up for his rights and his wine cellar. Consequently, Mr. Walsh is the subject of much good natured raillery on the part of his business associates, but whether because of the staunch stand he made, or because of the discovery that he has a well-stocked cellar, is undecided.

Ceramics Man Elected Treasurer C. of C.

John Pfeiffer of Henry Maurer & Sons, Maurer, near Perth Amboy, N. J., manufacturer of fire brick, hollow tile and other burned clay fireproofing products, has been elected treasurer of the Perth Amboy Chamber of Commerce, to fill the vacancy caused by the death of John F. Ten Broeck, former mayor of the city. Mr. Pfeiffer is one of the prominent figures in the ceramic industry in this section and equally prominent in business circles. He has been giving considerable time and effort to the new school and experimental station project at Rutgers College, New Brunswick, which enterprise has now closed so successfully.

Granted Three Months' Leave of Absence

Those in the ceramic line at Perth Amboy, N. J., were not a little surprised at the temporary retirement of Victor W. Main as superintendent of the Keasbey works of the National Fire Proofing Co., occurring late in March. Mr. Main has been connected with the company for the past thirty-one years and is relinquishing his duties at this time owing to ill health; he has been granted a three months' leave of absence, and at the end of this time he may resume his position at the plant. For the past eighteen years Mr. Main has been in complete charge of operations at this factory, known as the Raritan plant of the company; during his absence, this position will be filled by W. Guy Weaver, superintendent of the Standard plant of the company in this same section; Mr. Weaver will alternate between the two plants.

* * *

The Hutchinson company of Oakland, Cal., have been given the contract for the sanitary and storm sewer which is to be put in in Pittsburg. The entire cost of the system is estimated at \$30,904.30.

Move Offices from Niles to San Francisco

The main offices of the California Brick Co. and the Livermore Fire Brick Works have been moved from Niles, Alameda County, Cal., to 604 Mission street, San Francisco.

Sells Stock to Repay Loan

The Fresno Brick & Tile Co., formerly known as the Prescott Brick & Lumber Co., has been granted permission by the state corporation commission to sell 160 shares of its capital stock to F. K. Prescott to cover the cash advanced by him to the company.

Will Promote and Encourage Building

Brick and other clay products manufacturers and dealers, in common with other building material interests, property owners, architects and housing organizations of California, are more or less interested in the organization of the California Housing and Building Institute, the aim of which is to secure modifications of municipal and state building regulations in conformity with economic and scientific progress. Mark E. Cohn, who has had long experience in connection with building and housing conditions in San Francisco and Los Angeles, will be the executive director of the new organization. Announcement is made that whatever changes will be undertaken in the building regulations of the State, will be along constructive lines, every consideration being shown features tending to promote and encourage building.

Brick Being Specified Largely

Of the large new buildings under progress and soon to be started in various sections of California it is interesting to note from the standpoint of the brick industry that a very satisfactory proportion of the calls for bids specify brick construction. For instance, brick is to be used in the construction of a large Union Auto Stage Depot to be erected in Fresno, which is the first building of the kind in the city and probably any place in the state. It will be used by about sixty auto stage companies and will contain reading rooms for both men and women and all other accommodations of a modern union railway station. Some other important buildings are a two-story brick bank building at Seventh St., and Grand Ave., Los Angeles, a two-story brick store and apartment building 97x110 composed of eight stores, a bank and ten apartments and several offices, and a two-story brick garage and six apartments all in Los Angeles.

Will Spend \$50,000 in Improvements

The United Materials Co., with offices in the Crossley Building, San Francisco, has purchased a half-interest in the Richmond Pressed Brick Works, located in Richmond, an industrial suburb on the east side of San Francisco Bay. It is understood this is the first step in plans looking to the operation of the plant by the San Francisco firm. The purchase was made thru W. S. Hoyt, of the United Materials Co. from President H. Frost, of the Los Angeles Pressed Brick Co., which has been operating the plant.

Frank Irving, who served in the capacity of foreman, under the former management, has been advanced to superintendent, succeeding John G. Gerlach, Richmond City Councilman, who tendered his resignation some time ago, and has been remaining at the plant pending the change. It is stated that the new operators will spend about \$50,000 on improvements, whereby the output of the Richmond industry will be greatly increased.

Montebello Plant Will Soon Reopen

The plant of the old Mulford Vitriified Brick Co., at Montebello, Cal., has been purchased by the Simons Brick Co. and will be converted into a modern brick and tile manufactory of considerable capacity. The plant has stood idle for several years. The sale includes the brick plant and about fifteen acres of land on which is a large and rare deposit of vitrifiable clay.

The manager of the Simons company, Walter Malone, states that to start, the plant will turn out brick at the rate of about ten million per year, but that the plan of the company is to install machinery and facilities for the manufacture of building and roofing tile and to ultimately devote their plant exclusively to the tile products. The producing of tile will require more expert workmanship and a higher class of labor than is employed in the manufacturing of the brick.

The buildings of the old plant are being torn down, the machinery overhauled and rebuilt and as soon as possible the plant will start its operations.

The Simons Brick Co. are owners of large operating plants in several places in the state and will no doubt make the newly acquired plant a big success.

Will Increase Present Capacity

The Trinidad (Col.) Brick & Tile Co. is contemplating changes in the plant and is now planning on the installation of additional machinery to increase the present capacity.

Glenwood to Have Large Brick Plant

Arrangements are being made to establish a \$10,000 brick plant at Glenwood Springs, Colo., this plant to have an average capacity of 20,000 common brick and 5,000 face brick daily. The plant will be known as the Glenwood Brick Co., with F. I. Hamman general manager and S. T. Currier superintendent of the plant.

* * *

Application has been made by the Ebenezer Brick Co., of Newport, S. C., for an increase in capital stock from \$5,000 to \$10,000.

* * *

Iliff Concern to Erect Factory

The Iliff (Colo.) Brick & Tile Co. is making preparations to build on its property. The brick for the kilns and the machinery for the plant are now on the ground. It is expected the plant will be in operation within sixty days.

Will Use Motor Trucks to Transport Brick

There is prospect for a very heavy demand for brick in Connecticut once the building boom gets into its stride, and the many yards in that section are making ready for a busy season. Builders estimate that not less than 60,000,000 brick will be needed to meet requirements. Some of the manufacturers have been able to keep their kilns burning all winter, but a majority have no facilities for winter work, and all are rushing to place their plants in readiness for an early opening. It is anticipated that motor trucks and wagons

will be more extensively used than ever for transporting brick this year, because of the higher railroad rates and the difficulty in getting cars just when they are wanted. Much of Connecticut output will be used within the state, many building projects already being planned in New Haven, Hartford and other industrial centers, and this will make it possible to transport much of the material over the road.

New Interests Will Operate Berlin Yard

Frank Holmes, of the J. Holmes Brick Co., of Berlin, Conn., has purchased the plant of the Standard Brick Co., located about a mile north of the Berlin depot. The Standard yard is considered one of the best equipped brick manufacturing plants in the state of Connecticut, but has not been operated for the past few years. A spur track runs into the yard. The plant is valued at about \$75,000. Mr. Holmes is making preparations to begin active operations just as soon as weather conditions will permit.

Two New Wilmington Companies

Two new clay products concerns have been organized under Delaware laws with local incorporators at Wilmington. These are the Christiana Clay Products Co., with capital of \$100,000, to manufacture brick, tile, and kindred specialties; the organizers are Charles B. Bishop, S. H. Baynard, Jr., and A. M. Fox. The other company is the National Building Tile Co., with capitalization of \$10,000,000 to manufacture hollow building tile and other burned clay commodities. M. A. Bruce, and S. E. Dill are the incorporators.

Good Call for All Burned Clay Products

Local mason material dealers at Wilmington, Del., report a good call for burned clay products of all kinds at the present time, and express optimistic views regarding a continuance of "top notch" business during the spring and summer. Common brick is at the peak of the demand, with price of about \$25 per thousand for good grade material, delivered on the job. High-grade fire brick is selling at from \$69 to \$70 a thousand, and local industrial operations have brought about a stronger call for this material. Face brick is experiencing a fair market, with prices varying from \$45 to \$50 a thousand for desirable selections; both rough textured and smooth varieties are being used. Miscellaneous burned clay products, such as drain tile, sewer pipe, flue lining, etc., are operating under popular call. Clay tile partition is due for early price increase.

Building Prospects Bright at Wilmington

Building operations at Wilmington, Del., bid fair to reach far more than average totals during the coming spring and summer. The season is opening up in a very encouraging way, and marked activity is expected in the line of both housing and industrial developments. The former is receiving a great share of attention at the present time, for the scarcity of suitable dwelling accommodations is more and more pronounced. The Housing Committee appointed by the mayor has been holding a series of meetings to develop a definite plan of action, and the outcome of these conferences is expected to result in the building of a large number of homes during the coming year. Controversies now under way regarding wage scales for bricklayers and carpenters are expected to be settled at an early date, and until existing difficulties are sort of smoothed out, active construction work, as desired, is considerably handicapped; the Master Builders' Association is making every effort for a settlement. The local realty market is very active, and a large number of transfers of property are taking place.

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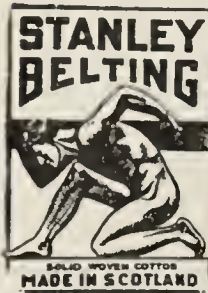
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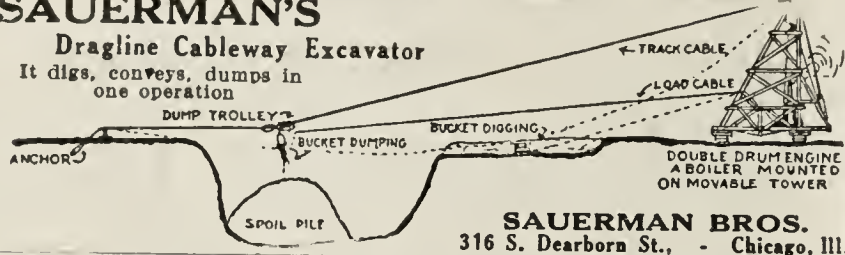
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Plans Expansion to Increase Output

The National Brick Co., Washington, D. C., with yard at Terra Cotta, a suburb of the city, reports a very active call for building brick at the present time. The company has orders ahead for some weeks to come and production is now under way at greatest capacity. General expansion is planned to allow for increased output; the yard is now turning out 30,000 brick a day and twice this number could be used if available. The company has a model plant in many respects, with homes on the property for a number of its employees. Prices are now quoted at about \$23, delivered.

Washington Looks for Active Season

There is an air of real enthusiasm in building circles at Washington, D. C. Men in all branches of the industry, from manufacturers to builders, are looking forward to an active season, and there is nothing in sight at the present time to mar the anticipated plans. The bulk of work will be concentrated on new homes and apartments; plans are under way for a number of structures of this character, and mostly of brick type. Other operations, including public work, are at rather a low ebb and nothing very substantial is looked for this season. That there is no lack of construction at the present time is shown by the records of the local building department, which is now issuing permits for work totaling close to \$300,000 a week. The Northwest Savings Bank has completed plans for the erection of a new bank building at Eighteenth Street and Columbia Road, while the All Souls' Unitarian Church has plans under way for a new church at Sixteenth and Harvard Streets, Northwest; J. C. Shofield is chairman of the building committee. A project of more than ordinary interest is the proposed National Victory Memorial Building to be erected under the auspices of the government on a local site; funds for the structure will be secured by means of a nation-wide campaign, with estimated cost placed at \$10,000,000.

Will Increase Output of Troy Fire Brick

The Idaho Fire Brick Co., of Troy, Ida., held its annual meeting on March 9. J. B. Watson, manager, reported sales for the year amounting to \$63,000 net, with a splendid operating profit. Notwithstanding labor difficulties and the miners' strike, the plant was kept in continuous operation thruout the year. Payroll for the year just ended amounted to \$33,000. This company was formed in 1912, but three years ago the indebtedness was so great that the stockholders were prepared to burn their certificates. All indebtedness is now paid off and there is good reason to look forward to a dividend being paid at the end of the present year. The demand for fire brick is greater than the production. It is, therefore, the intention of the company to increase the output this year.

J. E. Fredrick Heads Kokomo Brick Co.

The new board of directors of the Kokomo (Ind.) Brick Co., formerly the J. M. Leach Brick Co., elected the following officers at a recent meeting: J. E. Fredrick, president; D. C. Jenkins, vice-president; Willis B. Dye, treasurer, and E. S. Danner, secretary and general manager.

Residence Construction Forging Ahead

There is an excellent demand for brick, tile, sewer pipe, and other clay products on a large volume of small as well as better class residence construction that is starting all over the suburban resident sections of Louisville, Ky. In some sections new residences are springing up like mushrooms, and there is a chance that the severe housings shortage will

be broken by winter, altho most of the new construction is for sale purposes, rather than rental.

Good Demands from South for Clay Products

Louisville manufacturers of clay products report that a very fine demand is coming in from the far South, while there is an insistent demand from the small retailers throughout the state, especially the points which haven't brick plants of their own, and where brick is largely handled by building supply houses, or retail lumber dealers. Local manufacturers report that the campaign of the Hollow Tile Association is having fine results in the smaller towns in interesting builders and architects, dealers, etc., in carrying and pushing hollow tile.

Strike Holds Back Louisville Deliveries

Local deliveries have been held back slightly during the past fortnight by a strike of the general building trades unions, starting on the Alfred Struck contract on the addition to the Atherton Building and spreading to other large construction jobs when the Contractors' Association of Louisville refused the demands of the labor unions for a closed shop. Louisville has always been an open shop town, but has paid union scales in most instances. The Employers' Association and Contractors' Association have the matter well in hand, and it is believed that the trouble will be settled shortly to the satisfaction of the employers. There are today very few closed shops in any industry in Louisville, and employers absolutely refuse to consider operating under such conditions.

Operating at Capacity, Behind on Orders

A. P. MacDonald, of the P. Bannon Pipe Co., Louisville, Ky., reports that both plants are operating at capacity, and are continually behind on shipments, due to orders coming in faster than they can be filled. Demand is largely for sewer pipe and hollow building tile, which are the two lines that the company is working principally on this season.

The Southern Brick & Tile Co., Louisville, Ky., is again running at full capacity and has a number of very good orders on hand. This company like all other local companies only has to figure on how much it can get out, as demand is coming without any effort.

Prices are steady and firm and show no change whatever, following the last raise in early March. Manufacturers are now getting a very fair price, and are fairly well satisfied with conditions as a whole.

Increases Capital to \$300,000

The Howard Refractories Co., manufacturer of high-grade fire brick, with plant at Dorsey, near Baltimore, Md., has arranged for an increase in its capital from \$150,000 to \$300,000, for general expansion. The company has been furnishing large shipments of refractories for the different industrial enterprises in the Baltimore district.

Fine Demand for All Supplies

Building material dealers at Baltimore, Md., have little cause for complaint; things are coming and "coming right." There is a fine demand for supplies of all kinds, and the big problem is that of threatened shortage; otherwise, things look mighty bright. Common brick is very active, with price from local manufacturers averaging about \$24 on the job. Dealers receiving brick from out-of-town yards, however, are asking considerably in advance of this figure, running as high as \$28 a thousand f. o. b. supply yard; this brings a price of close to \$30 on the job. Fire brick is in strong call, selling at \$70 and \$71 a thousand for first grade

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They will show every fluctuation above or below the prescribed standard.

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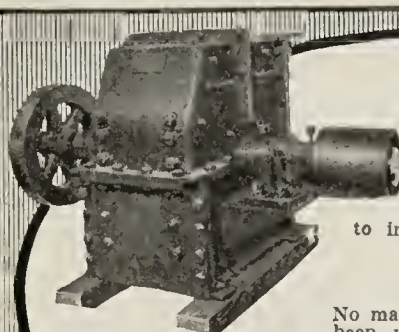
Nonpareil Anti-Friction Metal is particularly helpful on heavy bearings in brick and clay plants, on motors, cars, and on all bearings that are apt to develop friction and heat. More power. Less shrinkage and less oil. No more hot journals.

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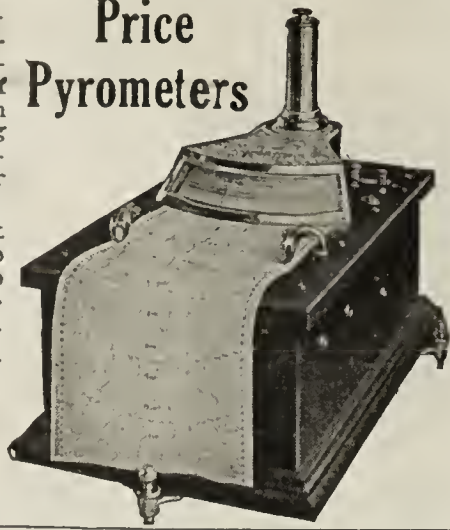
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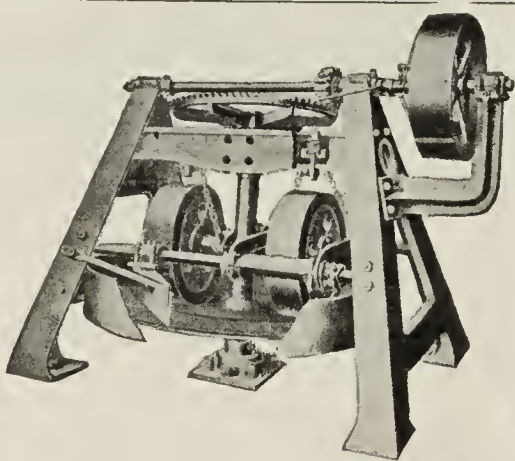


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The following ad

FOR SALE—American 10 ft. pugmill with friction clutch. Good order. Address: 4-Pug Mill, care of "Brick and Clay Record."

brings before you one of the many bargains listed on pages 789 and 790 this issue. You've nothing to lose and everything to gain by looking them over and investigating the ones that appeal to you.

stock. Face brick, also, is picking up in demand, and good varieties can be secured at about \$35; for textured specimens the price ranges as high as \$50.

Maryland Busy Building Homes

The building situation thruout the state of Maryland is of the most encouraging nature to those in the trade. The activity at Baltimore is reflected in forthcoming operations at Hagerstown, Frederick and Chestertown. The Hagerstown Housing Corporation has been organized with a capital of \$100,000 to build a number of homes. A site aggregating 100 lots has been secured and plans are out for bids on a first allotment of 15 houses; John J. Porter heads the organization. The Board of Trade at Frederick is giving attention to housing work, and it is expected that a large volume of homes will be erected in this district during the coming season. There is keen activity in building circles at Chestertown, and a number of interesting construction projects are coming to light; there is a great demand for homes thruout this district.

Nothing Will Stop Baltimore's Progress

The seasonal change from winter to spring is having very little effect on construction work at Baltimore, Md., except possibly to emphasize the local determination to "Build Now." Thruout the winter months building operations have been going forward at a substantial pace, and this city is one of the few important eastern centers that has not been troubled to any extent with labor difficulties or other building trade handicaps. While other communities are talking about their housing problems, Baltimore is making real progress in the right direction each and every week, and during the past fortnight plans have been filed for a large number of new brick dwellings. Among the important operations in this connection may be mentioned 16 two and one-half story brick dwellings to be constructed by the University Homes Co., on Canterbury and Cloverhill Roads; this project is estimated to cost about \$185,000. Harry Busick has arranged for the erection of 25 two-story brick dwellings in the vicinity of Wilson and Garrison Avenues; the homes will average about 26 by 34 feet in size, and the entire development is estimated to cost close to \$55,000. The Northwest Development Co., has completed plans for six dwellings of like size and type on North Pulaski Street, while the Downing Construction Co. will build five similar homes on the Old York Road. These few references show the popularity of brick for house construction in this section, and the same favoritism is shown in the line of industrial buildings. Structures of this latter type are now projected for early erection at Fairfield, Orangeville, Brooklyn and other industrial suburbs, and there is going to be a wealth of building of this nature hereabouts during the next few months. Baltimore means real business in the construction line and nothing is going to stop her progress.

Two Brick Companies Receive War Citations

The E. L. Cook Brick Co. and the East Bridgewater Brick Co., both of East Bridgewater, Mass., are among 300 New England manufacturing concerns which have received war department citations for their assistance in prosecuting the war.

Boston Commons Settle Back to \$27 Level

The price of common brick in the Boston market once more has settled back to the \$27 level, where it held for several months previous to a recent upward fluctuation, and dealers generally look for it to remain steady at that figure. Shipping conditions are improving daily and orders are plen-

tiful, the dealers report. The quoted price is for up and down brick delivered on the job.

Mississippi Brick Men Elect Officers

The Mississippi State Brickmakers' Association held its annual meeting on March 11 at the Jackson Board of Trade Rooms, Jackson, Miss., with eighteen members present. Short addresses were made by W. N. Puckett of Columbus, Fritz Salmen of New Orleans, and Ralph P. Stoddard, secretary-manager of the Common Brick Manufacturers' Association of America. The following officers were elected: John T. Osborne, of Corinth, president; P. I. Gaston of Hattiesburg, vice-president; Fred Backer of Brookhaven, secretary.

Bricklayers Granted Increased Wage

A new scale of wages, granting an increase of 12½ cents an hour to all union bricklayers and an increase of 10 cents an hour to bricklayers' foremen in St. Louis, Mo., has been agreed upon by representatives of the union and the Master Bricklayers' Association, and will become effective May 1. The scale affects approximately 2,500 workers and will remain in effect for a year. Under the new scale bricklayers will receive \$1.25 an hour for eight hour day instead of \$1.12½ an hour, the present scale. Foremen will receive \$1.35 an hour instead of \$1.25 an hour, the prevailing wage under last year's contract.

Fire Brick Plant Changes Hands

Stanislaus C. Mitchell, formerly president and treasurer of the Mitchell Clay Manufacturing Co., St. Louis, Mo., has retired from business and sold his entire holdings to A. A. Vancleave, proprietor of the Grand View Fire Clay Mines. President Wm. F. Knoesel, formerly with the Missouri Fire Brick Co. will be vice-president and general manager, and P. H. C. Kieser, formerly secretary of the old company will be secretary and treasurer of the new company.

The Mitchell Clay Manufacturing Co., which is one of the old established fire brick plants in the St. Louis district, manufactures all grades of refractory materials. The new company has started some extensive improvements to enlarge its capacity.

✱ ✱ ✱

Under a revised bill, the \$24,000,000 St. Louis bond issue, to be voted on May 11, calls for a \$2,575,000 appropriation for sewer construction, \$1,250,000 for street improvements and \$9,000,000 for improving the River Des Peres sewer which runs thru the central section of the city. Three-fourths of the entire issue will be used for building construction.

✱ ✱ ✱


Humboldt Brick Co. Changes Hands

The Nebraska Clay Products Co., a corporation capitalized at \$1,500,000, has taken over the holdings of the Humboldt Brick Co., and it is the purpose of the new owners to develop the plant into one of the largest factories for building brick, hollow tile, drain tile, paving brick and silo block, in the state. Material for rehabilitating the plant is on the ground.

Two New Ceramics Incorporations

Two new companies have been organized in New Jersey to engage in the clay products industry. At Avenel, the Dur-Econ Plastic Products Co. has been formed with a capital of \$250,000 to manufacture clay specialties of various kinds; the company is headed by Lewis M. and William Hauser, and Murray Felenstein.

H. H. Driggs & Co., Newark, have filed notice of or-



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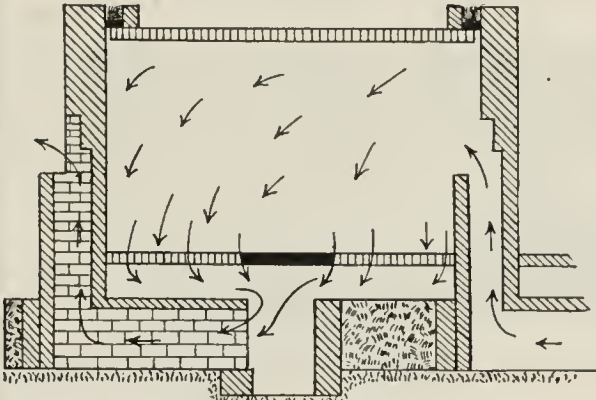
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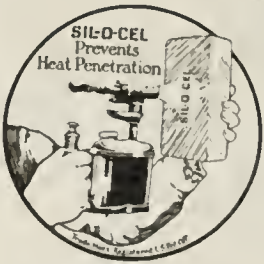
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make it durable, safe
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from heat losses and you will increase their efficiency and output.

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Produced in the form of brick, block, powder and cements.

Insulation will keep the heat in the kilns, making it possible to obtain greater temperature uniformity and reduce spoilage due to uneven burning. Ask for Bulletin R-71.

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ganization to engage in the ceramic tile business. Horace H. Driggs, 45 Crawford Street, and Jacob F. Clinchard, 534 Grove Street, Irvington, head the company.

"Orders Never Came in Faster"

The Hackensack (N. J.) Brick Co. is planning to inaugurate production at its plant about the middle of April, and proposes to establish capacity output at the earliest possible date thereafter. The yard has facilities for turning out about 70,000 brick a day, and modern equipment is provided to allow utmost facility and efficiency in operation. Electric energy is used in the different departments and it is said that this is not only more efficient but considerably more economical than steam. Initial operations within the next week or so will include the emptying of the clay pits, flooded with the winter snow and rain; for this service four 250 gallon pumping units are employed, making a comparatively short and simple task. The company anticipates a big producing season and reports a large volume of orders on hand for forthcoming output; in fact, it is set forth that "orders never came in faster." Just what the price for brick will be in the Hackensack district is still uncertain, altho the prevailing sentiment seems to be from \$27 to \$30 a thousand.

Price of Commons of Secondary Moment

Common brick is the big feature of the material market thruout New Jersey. The indication during the past few weeks that "top" prices had been reached and that there would be a gradual sag as the spring season advanced, is not coming to pass, for higher levels are being attained. At Newark, good hard common is costing about \$32 a thousand on the job, and there is no plentiful supply of the material at this price. Dealers at Paterson are asking \$36 a thousand, delivered, and there is no one to say that this will not go higher. At Trenton, a point of production, \$26 and \$27 is being obtained, and the material easily turned at these figures. It is a "sellers' market," of that there is no question, and whether New Jersey is slated for \$40 common brick before the season is over remains to be seen. This figure seems out of proportion to quotations in other parts of the country, but the entire eastern section is undergoing a keen building movement and this means that the material must be had—price, right now, seems to be of secondary moment.

Common Brick Leads Other Types of Construction in Newark

New construction work at Newark, N. J., continues to press forward with vim and determination. Hardly a week goes by but that increased totals are shown. The last week in March has produced no less than \$1,622,804 in valuation of new buildings, as against an amount of \$292,691 for the corresponding week of 1919. In this one week the aggregate building costs are greater than for the entire first three months of last year. When one figures building totals at Newark, these can be transposed readily into the local call for common brick, for this material leads by far any other type of construction in this section. For the week noted the outlay for new brick buildings was \$1,552,395 and when you deduct this from the grand total (\$1,622,804) there isn't much left, as building costs go. The outlook in this section for construction operations during the coming months is of the most encouraging aspect; brick men, material dealers, building contractors and others in the trade view the situation as the forerunner of one of the best building seasons ever experienced in this locality. And their hopes are justified.

N. J. Carries Out Slogan—Build Now

Spring building work is developing in New Jersey in an encouraging way. Construction operations of all kinds are the center of attraction in practically every municipality of the state, and in the aggregate the work will reach gigantic totals. The fall and winter seasons have shown considerable activity thruout this district, but spring building unquestionably will far eclipse the substantial totals which have been piling up. Full realization has come of the great shortage of housing accommodations of all kinds, and construction of this character will be a big feature of forthcoming activities. Despite certain labor controversies and the high prices for basic building commodities, the situation is entirely satisfactory from the viewpoint of new construction; there is a firm determination to build regardless of annoying conditions, for new structures are worth far more than their erection costs these days. Just like other parts of the country, the state is "underbuilt" and to an almost appalling total when it comes to the matter of homes—there must be action, and builders know it; the clamor for housing structures is leading to the employment of all sorts of existing buildings for this purpose to tide over the period. A survey of the situation at Newark, Jersey City, Paterson, New Brunswick and Trenton, and surrounding sections shows closely parallel conditions; each community has its individual problems, but these are minor as compared to the one fundamental necessity—BUILD NOW. And that's what New Jersey, in the aggregate, is going to do.

Homes Needed—That's N. J.'s Big Problem

Housing accommodations—that's the biggest problem in New Jersey at the present time. It reaches to every corner of the state, and investigations show that the situation is serious; so much so, that the Legislature is taking a hand and a number of bills are being considered to encourage the erection of new homes to the greatest possible extent. Among these is a measure (House Bill No. 199) exempting from taxation until 1925 all structures constructed primarily for housing purposes in cities of the state, and which are built two years within the time of the passage of the act; the law would be optional, that is, it would not become effective in any municipality until first approved by a vote of the people. At Newark, efforts are being made to form a housing organization, to be known as the Newark Housing Corporation with purpose to build homes in different parts of the city; this project is developing under the auspices of the Board of Trade. The proposed corporation will be financially equipped to purchase land and build at least 1,000 dwellings in the municipality. These homes will be sold to persons working in the city who have sufficient funds to make the required initial payment and ability to defray further payments on an installment plan. The Chamber of Commerce at Elizabeth is forwarding a movement covering the organization of a \$2,000,000 housing corporation to construct at least 500 homes in this city during the present season. These homes will be of brick, "Philadelphia type," and are estimated to cost about \$4,000 each. Similar movements are under way in other important cities so it is little wonder why the 1920 building season seems certain to be a record breaker in the line of housing construction.

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The Ramapo Brick Co. has been organized with a capital of \$25,000, to manufacture common brick at Haverstraw, N. Y. The company is headed by J. J. Brown, R. B. Ward and J. Ducey.

✕ ✕ ✕

The Art Tile Roofing Co., 31 Peck Slip, New York, has increased its capital from \$10,000 to \$50,000 for expansion.

We Can Save You Time, Money and Trouble on Fire Brick

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Quality, Price and Service

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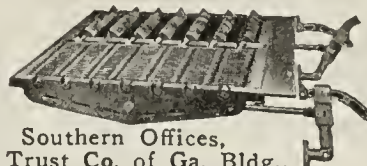
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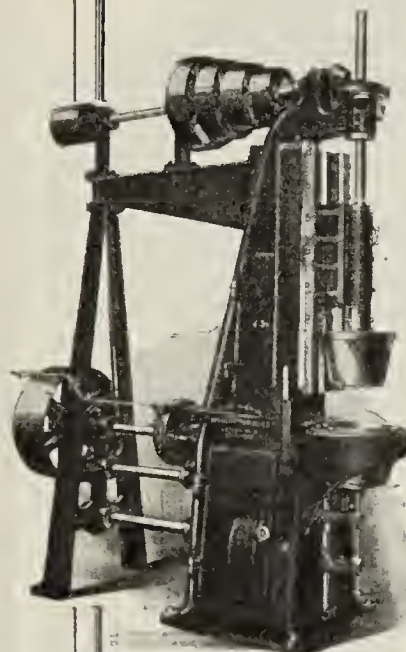
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Partition Tile Advanced to New Levels

The call for common brick in the New York market is light, owing to the various labor disturbances in the building trades. There is a good supply of material in the market, at least, sufficient for all immediate or early future call; during the past few weeks, mason material dealers have been busy in stocking up at their yards, drawing upon the wholesale market until there is little brick here left for sale. The price holds at \$25 wholesale, per thousand, alongside dock, while for delivery on the job, in the first hauling zone, a quotation of \$30.45 prevails. Other burned clay commodities, with the exception of partition tile show no change in price during the past fortnight, and these products, similar to other building materials, are operating under a lighter demand. Partition tile, however, has advanced to new levels; 2 by 12 by 12 inch material is now selling for \$115.80 per 1,000 sq. ft., delivered on the job; 3 in. material at \$185; 4 in. at \$208; and 5 by 12 by 12 in. at \$278.

N. Y. City to Enter Into Building Business

The housing situation in New York is of such acute nature that it carries more than ordinary interest to those in the building industry in all parts of the country. The activities of Mayor Hylan to bring about a settlement of labor controversies, particularly between the bricklayers and employers, to put forward a \$100,000,000 construction plan, have so far come to naught, and the situation, in this respect, is a dead-lock. To get things going, the Board of Aldermen is considering a resolution covering an appropriation of \$10,000,000 for the construction and maintenance of apartments and dwellings in the city; it is proposed that the city enter into the building business in a broad general way, handling the matter as the leasing of city docks is now arranged. Meantime the demand for homes has grown so strong, with the April removal and "eviction" season at hand, that the Fire Department is working for the relief of the situation; Fire Chief John Kenlon has issued orders to commanding officers of fire companies to inspect all properties in their districts, including lofts and other quarters, as may be used for the storage of household effects or for other purposes in connection with the proposition.

New \$25,000 Incorporation at Kenton

The Kenton (Ohio) Brick & Tile Co. has been incorporated with a capital of \$25,000, to manufacture brick, tile and other clay products. The incorporators are J. C. Jordan, J. H. Schmidt, Edward Schindewolf, G. N. Lingred, and C. M. Cessna.

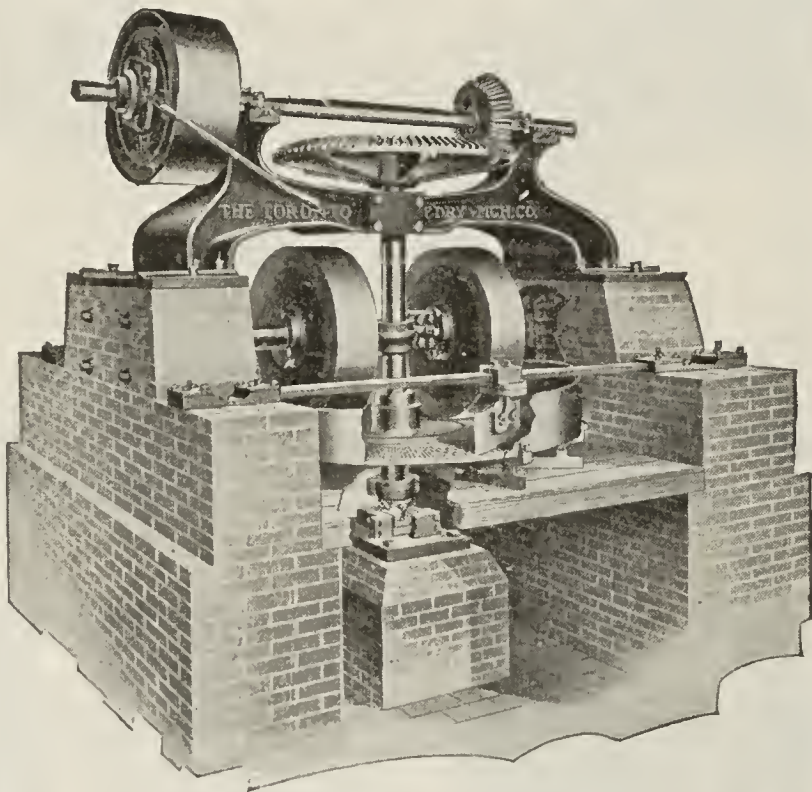
Large Roofing Tile Plant Reopens

The Ludowici-Celadon Co.'s roofing tile plant at New Lexington, Ohio, has resumed operations, after having been closed for some time because of scarcity of fuel during the war. There are now 325 employes on the payroll and the plant will be kept in constant operation. As soon as weather conditions permit, the company plans to build 25 modern homes on the site of the old brick plant for its employes.

Hamden Plant Leased by McArthur Concern

The McArthur (Ohio) Brick Co. has taken a long term lease on the brick plant of the Puritan Brick Co., located at Hamden, about eight miles from McArthur. The company will operate the two plants together and expects to make between 35,000,000 and 40,000,000 brick during the coming year. A large steam shovel has been purchased and steps have been taken to erect eight additional kilns. The company will make the same kind of brick as at the Mc-

THE MEANS GRINDING PANS



For Grinding Wet, Semi-Dry and Dry materials. Made in sizes adopted by the best judges. We are in position to solve your grinding problems.

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Write for Descriptive matter and prices on Pans Also Bulletins on Sewer Pipe and Tile Presses, Elevating and Conveying Machinery, Trucks, Barrows and other equipment for the clay products manufacturer.

THE TORONTO FOUNDRY & MACHINE CO.
Toronto, Ohio

Arthur plant, which is rough texture. The central Ohio territory for the two plants will be handled by the Gaddis-Harrison Co., of Columbus.

School Houses Feature Ohio Building

School house building is now the best feature of the brick industry in Ohio. During the past few weeks about three score of school buildings have been projected and in a few instances contracts have been awarded. Several Columbus architects have specialized in school buildings and their offices are full of that sort of work. A large majority of these projects will go forward, as there is a marked scarcity of schools, especially in the rural sections of the state.

Has Operated a Brick Plant for 52 Years

The Snyder Brick Co., Ottawa, Ohio, has recently bought a new hollow block machine and is at present building two patented down-draft kilns, a new steam dry shed and a new clay storage shed. J. P. Snyder, who is probably one of the oldest brick men in the United States still "in the harness," having worked on and operated a brick plant since 1868, states that the 1920 output of the plant has been sold at a good price.

Contractors Loath to Bid on Large Jobs

When bids were opened recently by the Ohio Highway Commission for about a score of road improvement jobs, only two contracts were bid on. This indicates that contractors are loath to take a chance on a large contract under present conditions. Quite a few of the road improvement jobs called for brick construction and others for either brick, concrete or macadam. Another letting is scheduled by the Highway Commission in the near future.

Zanesville Concern Elects Officers

At the annual meeting of the Burton-Townsend Co., Zanesville, Ohio, the following officers were elected for the ensuing year: Rufus C. Burton, chairman board of directors; Fred M. Sayer, president; William H. Lucktenberg, vice-president and general manager; L. K. Brown, vice-president; Leo W. Fleming, secretary and treasurer. This company has three plants that manufacture paving, face and radial chimney brick, also has five molding sand mills and coal mines.

Ohio Fireproofing Co. Changes Hands

The Ohio Fireproofing Co., at Nelsonville, Ohio, has been sold out and a new corporation known as the New Ohio Fireproofing Co., has been formed to take it over. The officers and board of directors of new concern have not yet been selected. The company operates a large plant for the manufacture of hollow tile and is an important factor in that business. The sales will be handled by M. M. Morrow, of Columbus, who is also sales manager of the Nelsonville Brick Co.

Nifty Ad. for Queisser Interests

Cleveland brick and building supply firms are beginning to go after more business now that promise of car relief and better production are forthcoming from railroads and brick manufacturers. One of the first advertising stunts to be presented to the trade is that by the R. L. Queisser Co. in the distribution of a combination pencil sharpener, penholder and emergency cigar ash tray. This little device is made of white terra cotta by the Northwestern Terra Cotta Co., and is an example of the new white glaze product of that company. The novelty bears the imprint of the Queisser company, and is being distributed among architects, contractors and other clients.

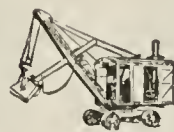
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"During the past year we have moved approximately 50,000 cu. yds. of slate shale with our ERIE Shovel. It is a wonderful machine, ideal for our work, as it is easily moved. We find it very economical and inexpensive. We are very much pleased with our investment." N. M.

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Serves as
Steam-Shovel
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The ERIE Shovel is easy to operate. Very speedy. Built with extra strength all the way through. Gives steady service in hard shale.

Let us send you full details about the ERIE Shovel, and what it will do. Write for Bulletin B.

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Builders of ERIE Steam Shovels and Locomotive Cranes

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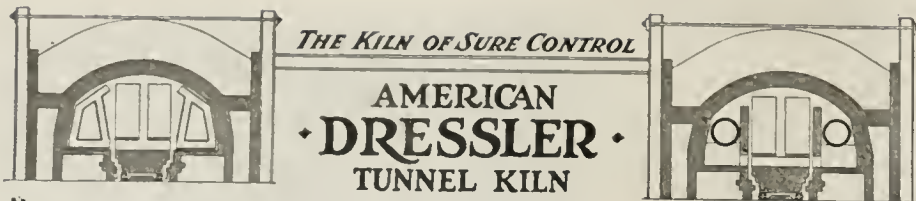
Light steel rails

We saved the day for the Clay and Coal Operators in War Times by furnishing BUCKEYE MINE RAILS, whenever and wherever needed, and while many other Steel Mills were running exclusively on other material, you could not have operated without us at that time.

Now, in Times of Peace, we ask that you do not forget us, as we can, and will render the same unexcelled service, and furnish the same high quality of material. "Buckeye means best", and BUCKEYE LIGHT STEEL RAILS are better still. All sections from 12 lb. to 40 lb. inclusive always in stock for quick shipment.

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PENNY WISE AND POUND FOOLISH

is the man who continues
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It can be done by the use of Rollin's Barium Carbonate because it eliminates scum.

Just add it to your clay at the pug mill or dry pan and it will make the scum-producing salts insoluble and harmless to your ware.

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BRICK MUST HOLD UP ITS REPUTATION

100 Homes Finished, 300 More in Work

The Akron Home Owners' Investment Co., of Akron, Ohio, capitalized last year at \$5,000,000, has completed 100 homes and before the summer is over expects to complete about 300 more dwellings. Approximately one-half of the capital stock of the concern has been subscribed, mostly by Akron business men and capitalists. The plan of the concern is to loan money to persons owning lots and to supervise the erection of a home for a small fee. Another activity is to build houses either for renting or for sale, and this branch of the business has been especially active. So far the activities have been confined to erecting single dwellings. With the coming of warm weather the company will start on an extensive program.

Labor Troubles Settled, New Jobs Under Way

With the settlement of the labor controversy in Columbus between material dealers and the Bricklayer's Union, there is an added impetus to construction work. During the past fortnight permits were taken out for the erection of a dozen dwellings, to cost approximately \$60,000, within the city limits and approximately the same number of houses in the suburbs were started. Architects and contractors are busy figuring on plans for new structures. Favorable weather conditions now prevail and many new jobs have been started.

In the settlement of the labor troubles the union bricklayers will be given \$1.25 per hour after April 1. On the other hand, the union waives its alleged right to dictate to the material men to whom they are to sell. The settlement is satisfactory to both sides.

Better Roads for Ohio in 1920?

If increase in funds means anything, opportunity for better roads in Ohio will be greater during 1920 than during any year since 1914. This is the opinion of paving brick and other material interests following the assertions from Columbus that provisions have been made for increase in revenue to pay for this work. Foremost of these funds will be the increased revenue derived from the sensational jump in automobile license fees, which became effective March 17. These fees are graduated according to horse power of motor cars, motor cycles and the like. The lowest fee for motor cars is \$8, and the highest \$20. This is an increase of from 60 per cent. to 400 per cent. above the former costs to the motorists. The increase is expected to yield \$6,000,000 additional.

Incorporated in the law which forced this increase upon the automobile owners is provision that makes for the expenditure of this sum by the state and its political subdivisions for the maintenance and repair of public roads, highways and streets, and all work done upon these thoroughfares "in which the existing foundation thereof is used as the sub-surface of the improvement."

Large Contract Awarded Cleveland Concerns

One of the most unusual, and of its kind believed to be the largest, brick contracts let in the Cleveland, Ohio, district, has been awarded to the R. L. Queisser Co., of that city. The contract calls for the installation of all the boiler setting work for the Fisher Body Co.'s plant, itself the largest single manufacturing unit in the country, promoters claim. This building will cover more than 600,000 square feet of land, have more than 1,000,000 square feet of operating space, and will have New York Central Line tracks running thru its center. The work awarded to the Queisser interests has the supervision of the Hawley Boiler Setting Co., Toledo, which specializes in this class of work.

The Queisser company proposes to use 200,000 salt glaze brick for this boiler setting work.

Another unique brick feature of the Fisher company construction will be the use of 6,000,000 to 7,000,000 shale builders. This part of the contract has been awarded to the Deckman-Duty Brick Co. As speed in construction of this plant is an important requirement, the Deckman-Duty company will haul the brick direct from its kilns to the site, about two miles. Material to be used will be brick 9x2½x4 inches. The part of the Fisher project likewise is the biggest for this kind of material let in these parts, and is taken as a good indication by brick interests of the prominence which shale builders are making for themselves in the newer manufacturing construction in the Northern Ohio territory.

Will Investigate H. C. of B. in Cleveland

Another investigation into the high cost of building in Cleveland, Ohio, is contemplated by county, federal and civic officials in that district. The probe is expected to be aimed particularly at brick, tile and other building materials, altho to date no hint of other costs, such as labor entering into building construction, has been offered. It is believed by material interests here that the announcement of certain large enterprises that they are abandoning their building programs because prices are too high has inspired this move. Latest projects to be abandoned are two big theatres planned by the Keith interests, which have sent word to Cleveland representatives that these houses will not be built because of the alleged exorbitant costs of construction in Cleveland.

That the trade as a whole will welcome another inquiry into its business seems evident from the sentiment expressed in different branches of the brick and allied trades in this section.

"Our books will be open to all investigators who seek to ascertain costs and prices in this field," says R. L. Queisser, Jr., vice president and general manager, the R. L. Queisser Co. "Our figures will show that we are making a fair living under present conditions, but they will not show that we are making anything like a 'cleanup' in this brick or building supply business. We feel that after the investigators get thru combing the real facts with the different firms here they will agree that we ought to get more for the time and energy put forth to sell brick. Our average will probably show that we make 14 per cent. gross profit, and it can be figured fairly easy what is left after the costs of doing the business have been deducted from this figure."

The trade here as a whole will welcome an investigation that will aid in showing the dealers how costs can be reduced, in the opinion of Herbert F. Geist, president, the Builders Supply Board of Cleveland. But whether that can be accomplished is of course doubtful, because no mention to date has been made of inquiry into labor costs, of paramount importance in considering the costs of materials themselves.

"What the building supply and brick interests do not like at this time is the manner in which the industry as a whole has been discriminated against during the war, by the numerous restrictions placed upon it, and also the questionable position some seek to place it in now that there is a chance to do some real business with the war over," says Mr. Geist. "I believe the trade would favor some minimum profit plan. Then each firm would know where it is at. But all costs of materials themselves are regulated by the labor going into their production."

There has been some hint in connection with the impending inquiry that there is too much uniformity of prices in the Cleveland district. This is denied by Mr. Geist, who points out that no two firms have the same prices on materials, because each firm acquires them and distributes them differently.

Impending increases in freight rates, which would be raised at least 15 per cent. if the district plan is put into effect, and

Perforated Steel Screens Of Every Description

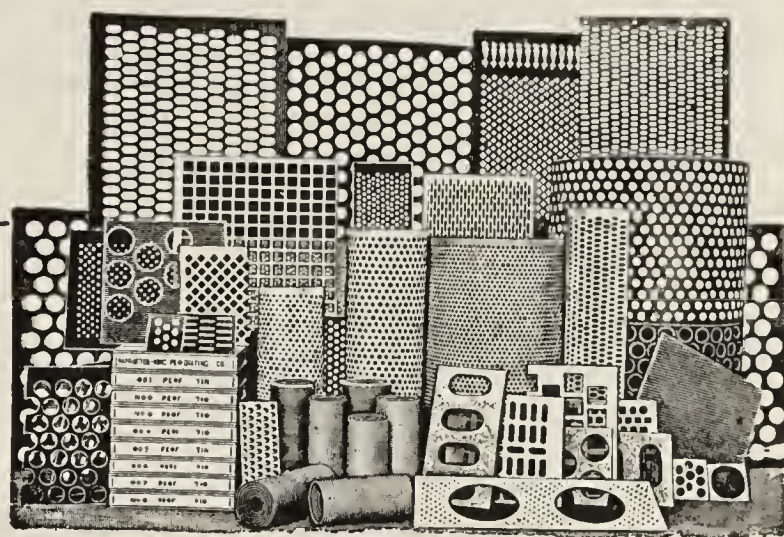
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R. H. Precipitated Carbonate of Barytes

You can safely guarantee that your brick
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Scum-Proof

You can get a higher price and influence
architects to specify your product because
Efflorescence is prevented absolutely.

But insist on the R. H. BRAND—it's dependable.

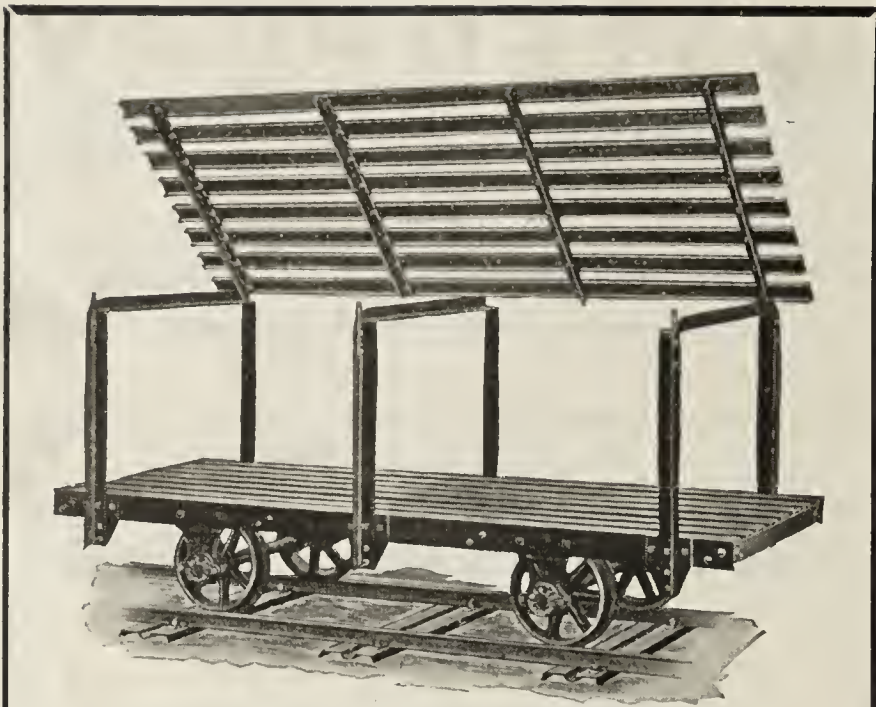
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of high grade chemicals
for the clay industry*

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Dryer Cars; correctly designed, correct-
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A SURE, safe, dependable valve for working steam pressure of 150 pounds or working water pressure of 250 pounds. Fitted with Jenkins composition discs, these valves have practically unlimited life. The disc, which is compounded of rubber and other suitable ingredients is contained within a metal disc holder. The disc is yielding enough to take up any grit or sediment that may be carried into the piping. When shut it forms an absolutely tight contact. The renewing of a disc is an operation of minutes only. Genuine Jenkins Valves and Jenkins Discs are obtainable through supply houses everywhere—know them by the Jenkins "Diamond Mark."

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25 per cent. if the sweeping advance program is carried out, is, in a sense, welcomed by the brick and allied industries here, but only with the provision that this plan will make for increased car service. It is estimated that the industry is not less than 50 per cent. short on cars for the Cleveland district. If this can be made up, it is claimed by several leaders in the trade that about 50 per cent. more business can be done by them.

As pointed out by President Geist, every effort has been put forth to build more homes, yet no effort, least of all car service, has been made to give the supply interests a chance to aid this movement.

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The Mount Union (Pa.) Refractories Co., manufacturer of high-grade clay refractory products, has arranged for a bond issue of \$300,000 for proposed expansion.

✻ ✻ ✻

The local building "loom" now under way at Gettysburg, Pa., is expected to bring about a heavy call for brick, and the Gettysburg Brick Co., will supply considerable quantities of material for a number of local operations. The spring producing season is now under way at the plant, and the coal situation which has been handicapping operations is said to be much improved.

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Two Five-Ton Trucks in Constant Use

William Conway, Philadelphia, one of the prominent brick manufacturers in this section, with plant on Walnut Street, reports an active call for common brick at the present time, with fine demand for spring deliveries. This plant operates thruout the year and has extensive production facilities. Good hard common brick is now being quoted at about \$25, delivered on the job, and two five-ton trucks are kept in constant use for city and suburban service.

Producing High Grade Refractories

The Queen's Run Fire Brick Co., Lock Haven, Pa., is active in the production of high grade fire brick, producing the material in a wide variety of standard shapes. A feature of the plant manufacture is smooth surface material and true corners, these details being held as most essential to prevent disintegration. The production of refractories at this plant has reached a high point of perfection, and the output is being used by many important industrial plants in the Pittsburgh and other neighboring districts.

Much Activity in Refractories Market

There is considerable activity at the present time among the manufacturers of refractories in different parts of Pennsylvania, and thruout the various steel-working districts there is a strong call for fire brick and other specialties. A number of plants in Allegheny, Huntingdon, Clinton, Butler and other counties are preparing for expansion during the coming months, and the outlook for increased production with increased sales is extremely bright. Standard No. 1 clay fire brick is now being quoted at from \$41 to \$45 a thousand, f. o. b. works in the Pittsburgh and neighboring districts, while second quality material is selling for about \$35; silica brick ranges as high as \$50 per thousand, f. o. b. plant, a good quality being obtainable at about \$45. Fire brick from Ohio and Kentucky plants in the local market holds at the same quotations as the Pennsylvania material, while that from Illinois and Missouri, first quality, is selling at \$35 to \$40, and second quality, \$30 to \$35. Chrome brick, magnesite brick and bauxite brick are in good call. An increase in prevailing prices is expected in the near future.

Red Shale Brick Its Specialty

The Hazleton Brick Co., Hazleton, Pa., is specializing in the production of red shale brick, both common and tapestry, or rough texture. This plant was formerly operated by the Wilkes Barre & Hazleton Brick Co., and was acquired by the present owners in May of last year. Since this time a number of improvements and extensions have been made, bringing the capacity up to about 20,000 brick per day. Plans are now well under way for a doubling of this output; contracts have been placed for considerable new machinery and two new kilns will be erected. The company has a fine plant site, with siding connecting with the Lehigh Valley Railroad; located on the State Highway, large quantities of brick are now being delivered to neighboring sections with use of motor trucks. Max Friedlander is president; H. W. Jacobs, secretary and treasurer; H. L. Campbell and T. E. Snyder, vice-presidents.

Shortage in Burned Clay Lines in Sight

There is a good call for building materials of all kinds at Philadelphia, Pa., and despite high quotations, mason dealers are decidedly optimistic as to the outlook for big spring and summer activities. What is seemingly of more important moment than price, is quantity, for there is a shortage in sight in the line of certain burned clay and other primary specialties. Manufacturers give no promise of any immediate relief, for even with production at a fair status, as now evidenced, the freight car shortage is of no mean proportions. Common brick is now quoted at \$25 to \$27 a thousand locally, delivered on the job. Fire brick holds at \$70 a thousand at the local yards for No. 1 standard, delivered. Partition tile is selling from \$150 a thousand, upwards, according to the size of material, and higher levels are not unlikely. Sewer pipe, drain tile, flue lining and other burned clay specialties are in strong demand.

New Factories Feature of Philadelphia Work

The spring building season is opening up in a bright way at Philadelphia, Pa., and the next few weeks are expected to produce some interesting projects of large and important scope. The past fortnight's activities have centered in a considerable measure in industrial work, and ground has been broken for a number of new factories. What is more desirable at the present time is housing developments, even tho industrial operations do require large quantities of brick and other materials. A survey of the local situation shows that there is a serious house shortage, similar to that prevailing in other sections, and that immediate relief must be forthcoming. The mayor has been holding a series of conferences in regard to the problem with important building operators and financial interests to develop a feasible plan for the erection of a large number of dwellings and apartments. It is held that lack of capital is the chief obstacle to progress at this time, and that means must be devised to encourage increased loans. The majority of homes built in this section are of brick type and as the housing plans mature it is expected that large calls will be made on the local manufacturers and dealers for this material. The Philadelphia Housing Association is active in this direction and is said to be arranging plans of broad scope. Another phase of the matter, and one of great consequence is the present high prices of basic building commodities; fear is expressed that a continuance of existing quotations will have a retarding influence in anticipated building operations.

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Humboldt, Tenn., is to issue bonds for sewerage and sewer pipe will be used in an extensive way.

WATERBURY

WATERBURY ARMORED ROPE



IN STEAM SHOVEL WORK

THIS is another service in which wire ropes are subjected to unusual strains and wear. The dust and grit raised in digging operations of this character is exceptionally hard on ropes. The Clay Products Company of Brazil, Indiana, is using Waterbury Armored Rope on their shovels with the result described by them, as follows:

"Referring to your issue of November 24th, we advised that your 1 x 1 1/2 size Green Construction Rope is giving us about 150 days' service against 60 to 90 days' service from an ordinary wire cable. We find it a most satisfactory cable and are using the same construction of rope on our smaller shovels to as good an advantage as the larger rope is giving."

WATERBURY ARMORED ROPE

FLAT STEEL

WATERBURY ARMORED WIRE ROPE

Patent, Mar. 6, 1911

6 Strands 37 Wires in Strand, 1 Hemp Core

The Name of Rope is Inscribed on the Outside Diameter of Rope

Diameter (Inches)	Weight (Lbs. per Foot)	Breaking Strength (Tons)	Length (Feet)	Price (Dollars)
1/2	1.05	14	3	14.31
3/4	1.40	21	3	21.00
1	1.95	27	3	27.00
1 1/4	2.25	41	3	41.00
1 1/2	2.75	44	3	44.00
1 3/4	3.55	58	3	58.00
2	4.00	67	3	67.00
2 1/2	5.00	84	3	84.00
3	6.00	100	3	100.00
3 1/2	7.00	117	3	117.00
4	8.00	134	3	134.00
4 1/2	9.00	151	3	151.00
5	10.00	168	3	168.00
5 1/2	11.00	185	3	185.00
6	12.00	202	3	202.00
6 1/2	13.00	219	3	219.00
7	14.00	236	3	236.00
7 1/2	15.00	253	3	253.00
8	16.00	270	3	270.00
8 1/2	17.00	287	3	287.00
9	18.00	304	3	304.00
9 1/2	19.00	321	3	321.00
10	20.00	338	3	338.00
10 1/2	21.00	355	3	355.00
11	22.00	372	3	372.00
11 1/2	23.00	389	3	389.00
12	24.00	406	3	406.00
12 1/2	25.00	423	3	423.00
13	26.00	440	3	440.00
13 1/2	27.00	457	3	457.00
14	28.00	474	3	474.00
14 1/2	29.00	491	3	491.00
15	30.00	508	3	508.00
15 1/2	31.00	525	3	525.00
16	32.00	542	3	542.00
16 1/2	33.00	559	3	559.00
17	34.00	576	3	576.00
17 1/2	35.00	593	3	593.00
18	36.00	610	3	610.00
18 1/2	37.00	627	3	627.00
19	38.00	644	3	644.00
19 1/2	39.00	661	3	661.00
20	40.00	678	3	678.00
20 1/2	41.00	695	3	695.00
21	42.00	712	3	712.00
21 1/2	43.00	729	3	729.00
22	44.00	746	3	746.00
22 1/2	45.00	763	3	763.00
23	46.00	780	3	780.00
23 1/2	47.00	797	3	797.00
24	48.00	814	3	814.00
24 1/2	49.00	831	3	831.00
25	50.00	848	3	848.00
25 1/2	51.00	865	3	865.00
26	52.00	882	3	882.00
26 1/2	53.00	899	3	899.00
27	54.00	916	3	916.00
27 1/2	55.00	933	3	933.00
28	56.00	950	3	950.00
28 1/2	57.00	967	3	967.00
29	58.00	984	3	984.00
29 1/2	59.00	1001	3	1001.00
30	60.00	1018	3	1018.00
30 1/2	61.00	1035	3	1035.00
31	62.00	1052	3	1052.00
31 1/2	63.00	1069	3	1069.00
32	64.00	1086	3	1086.00
32 1/2	65.00	1103	3	1103.00
33	66.00	1120	3	1120.00
33 1/2	67.00	1137	3	1137.00
34	68.00	1154	3	1154.00
34 1/2	69.00	1171	3	1171.00
35	70.00	1188	3	1188.00
35 1/2	71.00	1205	3	1205.00
36	72.00	1222	3	1222.00
36 1/2	73.00	1239	3	1239.00
37	74.00	1256	3	1256.00
37 1/2	75.00	1273	3	1273.00
38	76.00	1290	3	1290.00
38 1/2	77.00	1307	3	1307.00
39	78.00	1324	3	1324.00
39 1/2	79.00	1341	3	1341.00
40	80.00	1358	3	1358.00
40 1/2	81.00	1375	3	1375.00
41	82.00	1392	3	1392.00
41 1/2	83.00	1409	3	1409.00
42	84.00	1426	3	1426.00
42 1/2	85.00	1443	3	1443.00
43	86.00	1460	3	1460.00
43 1/2	87.00	1477	3	1477.00
44	88.00	1494	3	1494.00
44 1/2	89.00	1511	3	1511.00
45	90.00	1528	3	1528.00
45 1/2	91.00	1545	3	1545.00
46	92.00	1562	3	1562.00
46 1/2	93.00	1579	3	1579.00
47	94.00	1596	3	1596.00
47 1/2	95.00	1613	3	1613.00
48	96.00	1630	3	1630.00
48 1/2	97.00	1647	3	1647.00
49	98.00	1664	3	1664.00
49 1/2	99.00	1681	3	1681.00
50	100.00	1698	3	1698.00

"Twice as many hours out of Waterbury Armored Rope"

That's the universal verdict of the Waterbury users whose rope needs cover every sort of hard service, from steam shovel and dredge work to heavy logging. The more brutal the grind, the more decided economy in Waterbury Armored Rope (Gore Patent). The flat armor wire takes the wear for the life of one ordinary rope, and as it wears, packs down into the strands, making a smooth surface which gives them more than another rope's life.* Flexibility is not sacrificed, for the convex edges of the flat armor wire (the patented feature) allow as easy bending as a bare wire rope of the same diameter—and prevent the armor wire from riding up on itself or becoming loose in service.

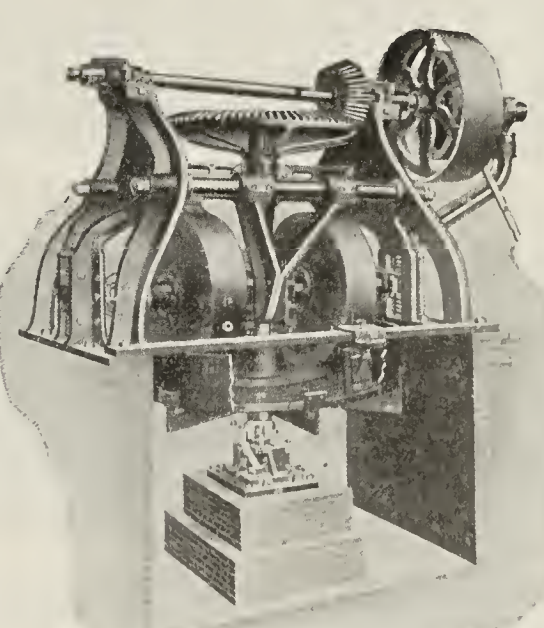
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*The Waterbury Rope Handbook illustrates this advantage—and tells you all about rope of every kind. A free copy is yours for asking.

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Crushing, Grinding, Pulverizing, Empounding, Tempering and Mixing, Elevating and Conveying All Kinds of Materials.

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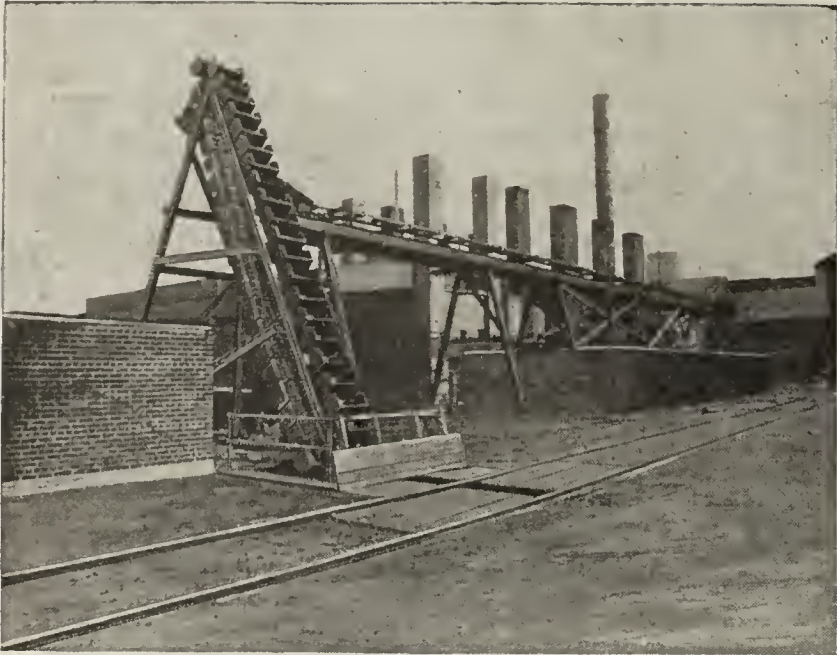
Sewer Pipe, Drain Tile, Hollow Blocks, etc.

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Unloading for Three Cents a Ton

Brickmen are confronted today, not only with shortage of labor but the question of speeding production.

Here's what the Portland Drain Tile Co., Portland, Ind., has to say about our AUTOMATIC UNLOADER: "Your machine has given complete satisfaction and we find it one of the BEST LABOR SAVING devices we have around our plant."

Poston Paving Brick Co. writes: "It has given absolute satisfaction and is a wonderful TIME and LABOR SAVER."

Cleveland Builders Supply & Brick Co. writes: "We find your machine performs exactly as represented by you and we are more than satisfied with results."

Probably we can help you as we have helped others, write for catalogue anyway.

The Columbus Conveyor Co.
Columbus, Ohio

Common Brick Scarce, Prices Strong

The brick manufacturers and dealers around Memphis, Tenn., report business good despite a very rainy season in February and March. Orders are booked ahead and considerable construction work is in progress on warehouses, factories and business establishments, tho residential work has not opened yet on a large scale. Talk of advance prices for labor in the building trades is rife, the time of the advances mentioned as April 1. Plumbers, plasterers, bricklayers, stone cutters and other tradesmen are asking a raise on the eight-hour basis; the stone cutters are making the smallest request.

Dealers report common brick scarce at factories and price very strong and demand good for face brick. Sewer pipe is also in good request, the city taking bids for considerable of its supplies and many private enterprises calling for these materials.

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It is reported that a large brick-making plant is to be installed at Kenilworth, W. Va. by Fred G. Porter of Newell, and others.

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With Our Friends Across the Border

Pollard Bros., Ltd., Edmonton, Ont., have been incorporated. Their plant is again in operation after being closed down since 1914.

John S. McCannell, president of the Milton (Ont.) Pressed Brick Co., Ltd., has returned from a stay of six weeks at Miami, Fla.

Thomas Kennedy and Charles Harrison, of the Dominion Sewer Pipe & Clay Industries, Ltd., Swansea, Ont., will leave early in April for a trip to Wellsville and Zanesville, Ohio.

H. Busk, formerly manager of the Buff Pressed Brick Co., Hannon, Ont., is now manager of Shale Products, Ltd., the plant of T. H. Graham, at Inglewood.

F. B. McFarren, of the Interprovincial Brick Co., and Mil-lard F. Gibson, of the National Fire Proofing Co., have returned from a trip to several Ohio clayworking centers, where they have been examining kilns.

L. E. Shaw, Avonport, N. S., expects to install five thirty-foot kilns and a waste heat dryer, using a fan and heat from cooling kilns.

In 1919 the brick, clay and tile imported into Canada were valued at \$2,494,000 as compared with \$4,570,000 in 1918 and \$4,015,000 in 1917.

The Don Valley Brick Works, Todmorden, Ont., suffered a loss estimated at \$15,000 due to the overflowing of the Don River into the kilns. They have issued a writ against the Canadian National Railway for this amount.

Brick is being piled up at Leaside (North Toronto) for the erection of a large number of houses there this year. These are stacked along railway sidings and on the sites of the proposed buildings.

The top stories of the McKinnon Building, Toronto, were destroyed by fire on March 5. The offices of the Port Credit Brick Co., Ltd., which are in this building, were seriously damaged by water.

The following statistics have recently been given out by the Department of Mines of Nova Scotia:

	1918	1919
Brick—number	13,379,600	12,894,550
Drain pipe and tile—feet	1,001,792	605,872

Glasscoat Sewer Pipe & Clay Products Ltd., has been incorporated with head office at Toronto. The plant at Orillia will be put in shape at once and manufacturing will begin

BUCYRUS



For Digging Shale

The massive construction and great power which are found combined in

Bucyrus Steam Shovels

have made them famous the world over for long life, economic operation, high steady output and power.

Let our representatives tell you what they can do for you.

110-C—3½ to 6 cubic yd. 78-C—2½ to 3½ cubic yd.
103-C—3½ to 5 cubic yd. 68-C—2½ cubic yd.
88-C—3 to 4 cubic yd.

Also all sizes revolving shovels and dragline excavators.

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BUCYRUS COMPANY

SOUTH MILWAUKEE, WIS.

New York, Chicago, Cleveland, Birmingham, Minneapolis, Denver,
Portland, Ore., San Francisco, Salt Lake City, London 187

about May 1. Miss Cameron, 17 Bloor St. East, Toronto, is secretary-treasurer. The plant manager is Mr. Beharriall.

According to a report from Regina, a valuable deposit of white fire brick clay has been located in the southern part of the province of Saskatchewan. The clay, it is stated, is almost free from iron and could be readily manufactured into fire brick, hollow tile, white glazed tile and even some grades of porcelain.

The Alberta Clay Products Co., Ltd., Medicine Hat, Alta., is installing a machine for the manufacture of hollow ware, drain tile, and other clay products. This machine, ordered a few years ago, is now being installed to take care of the growing demand for clay products. Other improvements are also contemplated to increase the output.

The three brick plants at Redcliff, Alberta, are now in operation and are turning out large quantities of brick in readiness for the expected spring rush. Reports from all three plants are to the effect that prospects for business were never so good. The Pressed Brick Co. opened their plant with a staff of thirty men and if orders materialize as expected, this number will be at once increased.

R. L. Breckin has introduced a bill in the Ontario Legislature to increase to \$2,000 per 100 acres the allowance made to farmers for drainage and tileage. At present, townships are authorized to make a flat allowance of \$1,000. This is in line with the recommendations made to the Minister of Agriculture by the Canadian and Western Ontario Associations' joint tile committee a year ago.

The London Housing Commission has called for tenders for 54 houses. There are six plans varying from cottages to two-story houses and finishes of frame, stucco and brick veneer and brick. Loans of \$114,200 have been approved to date.

The sum of \$300,000 has been allocated to Vancouver, B. C. for soldiers' houses. Over 100 applications have been attended to by the Housing Commission.

Tile Manufacturer Writes Book on Birds

Clay products men generally know Jack Miner, the tile manufacturer of Kingsville, Ont. Like many other clay products manufacturers he has a hobby, which is birds. Jack was the second eldest in his family and was brought up in a forest settlement. It is not surprising therefore, to learn that at the age of thirty-two he knew only the alphabet and thru the unconscious influence of his son he learned to read. His son asked him to go to Sunday School and he learned to read by reading the Bible.

Jack Miner is now writing a book on birds and when completed it will find a large sale. He is even ready to give one of his lectures on birds and he has been in great demand. He uses moving pictures to illustrate these lectures. He has wonderful colonies of swallows and robins at Kingsville, where they raise their young in the clay nests which he provides, unmolested, and are so tame they feed out of a spoon. He also has a colony of wild geese. He has tagged many thousands of these and year after year he notes their return and their habits.

Authorize Issue of Bonds to Encourage Drainage in Canada

H. P. Timmerman, Industrial Commission of the Canadian Pacific Railway, has suggested to the Quebec Department of Agriculture that a meeting be called at Quebec of all parties interested in farm drainage including the manufacturers of clay products. Already inquiries are coming from prospective makers of tile who want to figure on production of same in large quantities. Hon. Mr. Caron in his measure recently



THIS car is a decided success on the job it is intended for. But conditions at your plant are different. A little difference in design may make a big difference in performance.

That's why we design and build cars for individual requirements.

If you are hard to please, write us

H. D. Conkey & Company

Mendota, Illinois

Equip Your Kilns with SCHURS No. 1 DOWN-DRAFT KILN BURNERS

For quick burns and better colors.

The Schurs is the ONLY Kiln Burner provided with a hood to protect the low fire from strong drafts when water smoking. Different types of Burners for the various classes of kilns.

Write for Catalog

SCHURS OIL BURNER CO.
Los Angeles, Calif., U. S. A.

Sole Mfrs.

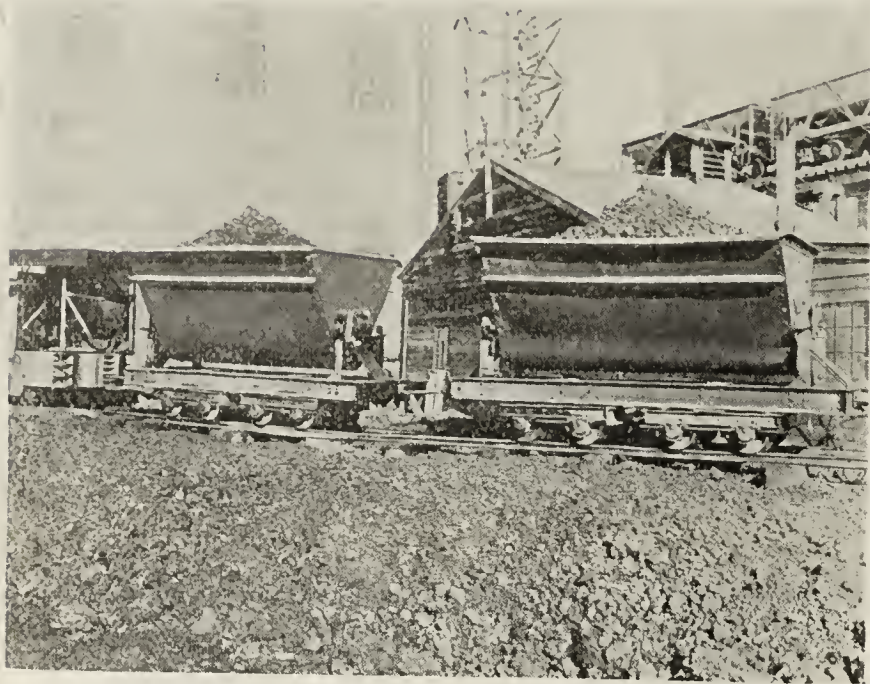


Note
Adjustable
Tip Hood

"Be Sure
it's
Schurs"

This burner will produce a light fire close to the tip hood or to the rear of the furnace as desired, with just a half turn of the tip at a time.

EASTON CARS "on the job"



Economy in quantity production is an axiom. *Quantity moving* is one of the means to that end.

Transportation of raw or finished materials within the limits of the plant or "job" is most efficiently accomplished on an Easton industrial railway—where man-power is multiplied and numbers diminished, to the marked saving of time and expense.

Easton service is planned and executed with the expertness of twenty-five years' experience in industrial railway problems. It includes not only the material—cars for the particular commodity, track, switches, turntables and such equipment—but, in its larger sense, the whole installation of a modern industrial railway system, with due consideration of its highest efficiency in routing and ultimate development.



Ask for recommendations for *your* plant. We are at your disposal.

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2050-E

enacted, authorized the issue of bonds by municipalities to encourage drainage. This should stimulate the manufacture of tile in the Province of Quebec. The municipalities are permitted to advance seventy-five per cent. of the cost of drainage up to \$1,000 for each approved applicant but not exceeding \$50,000 in any municipality. The bonds will be for \$100 each bearing interest as high as six per cent. per annum. The amount spent will be collected in twenty annual installments, principal and interest being so apportioned as to permit this being done.

But what is of further practical advantage is the consolidation of requirements in the way of farm tile permitting its manufacture under large contracts for immediate delivery, thus removing the speculative features of the business and avoiding breakage by allowing carload shipments to convenient points of distribution. Farmers are seldom individually in a position to order this product in sufficient quantity to obtain the advantage of carload lots and prices.

Surveys are practically free and drainage literature is being freely distributed. The immediate response of the farmers is hoped for.



Roofing Tile for Mexico

The J. W. Stephens Roofing Tile Co. of Dallas, Tex., has just received an order from the Adolph Prieto Co. of the City of Mexico for \$10,000 worth of roofing tile. The material is to be used in the construction of large woolen mills in the capital of Mexico and deliveries are to be made by May 1.

The Adolph Prieto Co. maintains its own equipment in the form of cars for transportation of materials from the Mexican border, Mr. Stephens said, and will send cars to Laredo, Tex., where the consignment will be transferred from the Texas railroad for transportation to the company's plant.

"The purchasers of this material are in the market for large quantities of other kinds of material than we handle," Mr. Stephens said, "and in my opinion much business for Dallas supply houses is opened up by the placing of this order. There has been little activity in Mexico as a market for goods from Dallas for five years until the last ninety days, and I anticipate a profitable business in that quarter in the future."



Brick, Tile and Pipe Works in East Africa

Consul S. W. Eells reports from Nairobi, British East Africa, that the Nairobi Brick, Tile & Pipe Works, which was recently organized, is ready for production on a fairly large scale. It is expected that the output will be 500,000 brick monthly in addition to 100,000 Mangalore roofing tile. The company owns a clay deposit of about 50 acres with a good depth of clay suitable for all purposes. The immediate output will be stock building brick, but it is expected in the near future to turn out brick of all colors.



Report on Saskatchewan Clays

A report has recently been distributed by the Department of Mines, Ottawa, Canada, entitled "Report on the Clay Resources of Southern Saskatchewan." This work is based on field work carried on during the seasons of 1915 and 1916, and on laboratory tests conducted in the ceramic laboratory of the Mines Branch during 1915, 1916 and 1917. Its publication is a further contribution to the knowledge of the economic minerals of Canada, and may be deemed specially opportune at the present time, when the commercial demand for refractory materials is—and has been for years past—altogether in excess of the supply, in Canada.

The Province of Saskatchewan excels in the quality and quantity of that class of raw refractories known as fire clays; and in addition to this valuable material, possesses other argillaceous deposits, from which can be manufactured practically the whole range of structural clay products; a fact of vital importance to a region almost entirely devoid of native timber and building stone.

The report of Mr. Davis, who is author of the book, contains information not only regarding the geological position, exact locality, and availability of each deposit from which the clay samples were collected, but gives an account of the behavior of the materials tested in the laboratories; thus determining, scientifically, their qualities, and adaptability for use in the clayworking industry.

* * *

Tests Show Independence of Foreign Clays

American brass and steel manufacturers until the war, held that graphite from Ceylon and German Klingenberg clay were necessary in the making of brass and steel melting crucible. Consequently, most of the graphite and bound clays used in the manufacture of crucibles were imported.

When the war came and the manufacturers were deprived of these imports, the Bureau of Mines, Department of the Interior, began experiments to see if the so-called inferior American clays would answer the purpose. Over 450 full sized crucibles have been made at the ceramic station of the Bureau of Mines at Columbus, Ohio, and tested in brass making and steel-smelting. Two different tests made on brass melting crucibles in two different foundries indicate that the domestic flake graphite gives a crucible of greater service than those made from Ceylon graphite. The Bureau of Mines states that these two tests are not sufficient to be conclusive and more extensive tests are now in progress to determine this point.

Of the bond clay tests, the bureau states that the work has been sufficiently thoro to indicate that there are two American clays superior to the German Klingenberg clay for bonding brass melting crucibles and that there are thirteen American clays ranking higher than the Klingenberg clay for steel melting crucibles.

In so far as bond clay for graphite crucibles is concerned, the Bureau of Mines says the United States is now nationally independent, the hold which the German Klingenberg clay had on the crucible trade having been finally broken. It is declared that the United States will never return to the use of Klingenberg clays.

* * *

Americanism vs. Bolshevism

Americanism provides a stable government of the people, for the people, and by the people which has a constitution which guarantees life, liberty and justice. It protects the property of its citizens.

Bolshevism is an autocratic form of government of the very worst type. There is no constitution; there is no security of life, liberty of property and no justice.

Americanism represents civilization of the highest type. It protects the home, the women and the children.

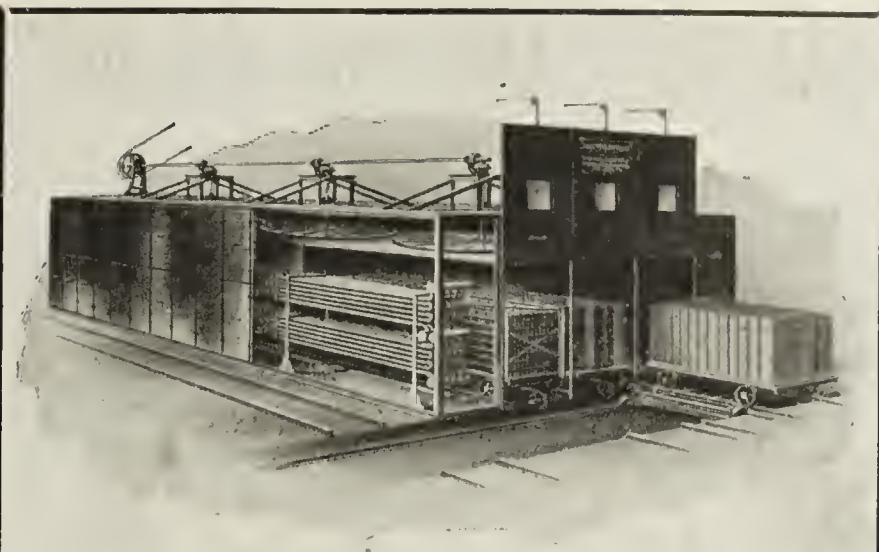
Bolshevism represents barbarism of the worst type. It murders those who oppose its leaders, it makes women common property. It destroys civilization, culture and knowledge. It brings back the dark ages.

Americanism brings prosperity, health, safety and happiness. It makes life worth living.

Bolshevism brings poverty, disease, starvation, misery and death.—*Selected.*

* * *

At Dixiana, S. C., the Palmetto Brick Co. Inc., has been incorporated, with a capital of \$100,000.



Proctor Dryers are made to fit your capacity

Proctor Dryers are not installed in a haphazard manner. We never trust to luck to have things work out right. We send an expert to your plant to figure on the drying capacity it needs. Then we give you a price on a machine that works under an iron-clad guarantee to give you that capacity.

You will not have far to go to see a Proctor Dryer at work, because we have installed them in all localities, and we invite you to talk to the men who operate them.

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DRYERS

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the belt's full
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Fasteners as the strongest,
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Tell our Brick Mill Service Department
the width and thickness of your belt and
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we will send samples for try out.

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British Adopting American Excavating Methods

The accompanying photo shows the first steam shovel ever used for building construction work in England—a Type "B" ERIE. (See Page 765).

This shovel is owned by F. D. Huntingdon, Ltd., Engineers & Contractors, 11 Hanover Square, London. The shovel is excavating for a chewing gum factory to be occupied by Adams & Beemans, Ltd. the British branch of the American Chicle Co. Because of the comparatively small amount of material to be handled, the contractors thought at first that the use of a steam shovel was hardly warranted. But they were delighted with the results, both from the point of view of the speed with which the work was handled and the clean job done by the machine.

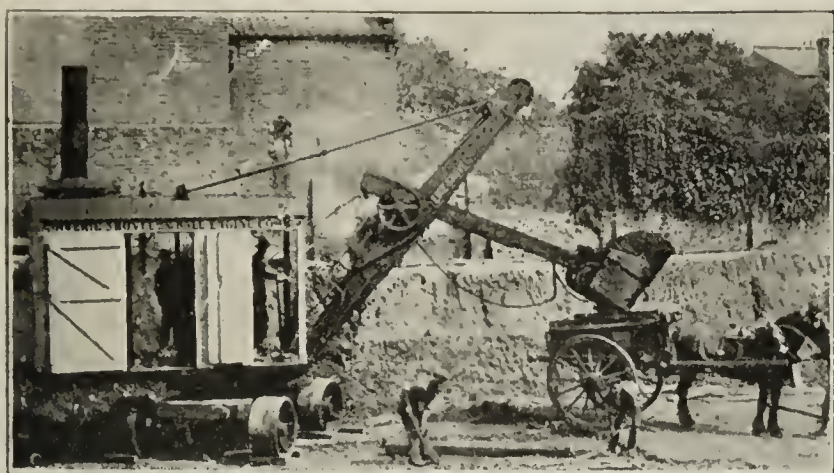
The output on this job was limited by the rate at which carts could be brought into position, and was far below the shovel's capacity. Even with this hindrance to contend with, F. D. Huntingdon, Managing Director of Huntingdon, Ltd., writes "This shovel has proved of inestimable value, cutting our excavating cost in half."

The photo below shows the first steam shovel that ever traveled the streets of London. It was viewed with astonishment, as London is 2,000 years old, and has never before been disturbed by these monsters which no longer attract attention in the U. S.

There are twenty ERIES, built in Erie, Pa., by the Ball Engine Co., at present digging their way into the confidence of British contractors and manufacturers, and more are on their way. These ERIE Shovels are being



The First Steam Shovel That Ever Traveled the Streets
of London. It's An Erie



Type "B" Erie Steam Shovel Owned by F. D. Huntingdon, Ltd., London, England.

used by contractors, cement mills and brick manufacturers and are doing the work in far less time than has ever been accomplished by hand labor, at about one-third the cost.

Steam Shovels are not a new thing in England, but the British steam shovel is a heavy and cumbersome machine and is only suitable for the heaviest kind of digging. English labor conditions, in the past, have not warranted extensive use of excavating equipment. Manual labor has been cheap, and often more profitable than the heavy steam "navvies", as they are called. Then too, the amount of excavating on most contracts has not been so large as to warrant the use of such heavy and expensive machinery.

A light 20-ton or 14-ton shovel, capable of traveling anywhere under its own power, has been absolutely unknown until the ERIES entered the field. But recent developments in the labor conditions—the shortage of manual labor and the increase of wages—have prepared the market for an easily handled, and reliable steam shovel. The ERIE has met these requirements with satisfaction and profit to British contractors and manufacturers.

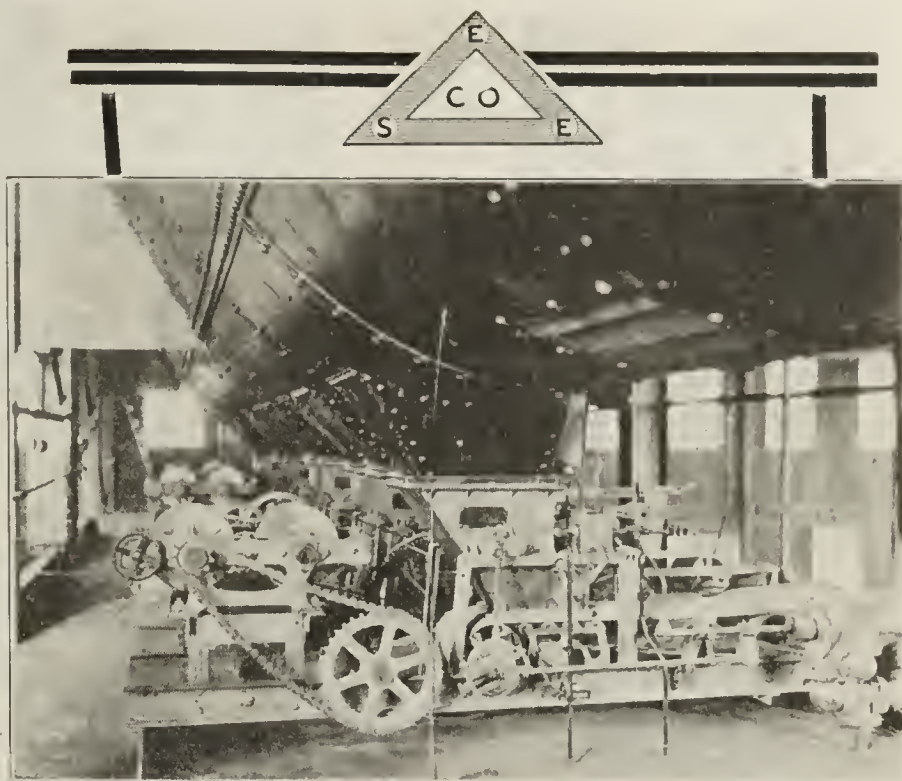
* * *

C. C. McDermott, New Chicago District Manager for the Brown Instrument Co.

C. C. McDermott has assumed charge of the Chicago office of the Brown Instrument Co., of Philadelphia, succeeding J. W. Lazear, who recently resigned to take up other work in New York. Mr. McDermott has been transferred



C. C. McDermott, in Charge of Chicago Office, Brown Instrument Co.



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from the Philadelphia office where he has been district manager for some time.

Previous to his connection with the Brown Instrument Co., Mr. McDermott was for many years on the staff of Lord & Burnham. Originally a Trenton boy, he first joined Lord & Burnham thru their New York office. From New York he went to the Boston office of the company for two years, was their Canadian sales manager for three years, and later manager of their Philadelphia office.

In addition to an exceptionally broad experience and insight into industrial conditions, Mr. McDermott has had the advantage of studying pyrometers, thermometers, pressure gauges and other Brown instruments, right in the Philadelphia laboratories of the Brown Instrument Co., and he is admirably equipped to interpret and serve the needs of the Chicago territory. His pleasing personality and thoroly frank, sunny way of doing things can but bespeak him a hearty welcome from the company's many friends.

✻ ✻ ✻

Announcing Proctor & Schwartz, Inc.

Readers of *Brick and Clay Record* have for several years been intimately acquainted with the Philadelphia Textile Machinery Company, manufacturers of Proctor dryers. This company has found it desirable to change the firm name to Proctor & Schwartz, Inc., but in all other respects they will continue to operate as formerly.

It will also be of considerable interest to the clay products industry to know that this company has purchased the plant and good will of Ceramic Equipment Company, clay drying specialists of Trenton, N. J. The latter concern has been completely reorganized and Eugene A. Hults has become president and managing director of Ceramic Equipment Company, whose headquarters will continue to be at Trenton.

Mr. Hults needs no introduction to the industry inasmuch as he was secretary and manager of the North Iowa Brick & Tile Company, Mason City, Iowa, for nearly four years, during which time he put into practice many aggressive and practical ideas. Previous to that time Mr. Hults was with the General Electric Company, doing creative sales work of electrical equipment in the clay products industry. More recently Mr. Hults has been in government service. Mr. Hults is a graduate electrical engineer (Pratt University) and also took a Post Graduate course, chemical engineering at Columbia University.

The Ceramic Equipment Company has during the past year made quite a number of installations of their equipment which consists of Automatic Stove Rooms, Mangles and Conditioning Machines, for use in the drying of pottery, electrical porcelain and general ware.



Eugene A. Hults, President and Managing Director.
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decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

More About Bricklayers

INTEREST in the bricklayer problem will always be keen while present conditions exist, where there is prospect of a tremendous production of brick and other structural clay products with a contrasting lack of production of skilled mechanics to lay up the material in the wall.

Most of our readers will remember that at the recent annual meeting of the Common Brick Manufacturers Association of America, Thomas R. Preece, vice-president of the Bricklayers', Masons' and Plasterers' International Union, talked to the brick makers about the bricklayer problem. Mr. Preece said that so far as the union is concerned there is no restriction on bricklayers either by law or otherwise. He said that the contractors were to blame for the shortage of bricklayer apprentices, because they did not want to be troubled with them.

Some of our readers have taken exception to this explanation for the shortage of bricklayer apprentices, saying that they know for a positive fact that the unions are opposed to taking on any but a very limited number of apprentices. Other readers have endorsed the views of Mr. Preece, saying that the contractors really are to blame. Considerable comment on the subject was printed in the March 23 issue of **Brick and Clay Record** on pages 620 to 624.

Opinions are interesting. We had hoped that they would lead somewhere. The comment, however, which has been published to date is characterized by disagreement. No practical workable plan was forthcoming UNTIL—

We received a letter from an old friend who used to sell face brick in Detroit. He told us of a new idea. We followed his lead, as the result of which there appears on another page of this issue an exceedingly interesting article entitled, "Indianapolis Solves the Bricklayer Apprentice Problem." "The proof of the pudding is in the eating." As evidence of the success of the Indianapolis plan, we are told that

there are to be similar adventures at South Bend, Fort Wayne and Terre Haute, Ind.

There is no question but that the presence of an apprentice on the wall has been disturbing to the peace of mind of the average contractor. He felt that the apprentices were slowing up the job and that this was costing him a sum all out of proportion to the value of training the budding bricklayer. This led the contractor to say, "Why should I stand the expense of producing bricklayers? Let the union do it." The union said, "Let the contractor do it; he is the one that needs the men."

The brick manufacturer, being the innocent third party stood by, apprehensive of the outcome.

The Indianapolis plan solves the problem. It keeps the apprentices off the wall except on Saturday. The contractor pays the young men while they are learning and gives them a job when they are ready to handle the trowel on the wall. Then, these men are paid for three and a half years in accordance with their developing skill. Four years after they take up the trade, if successful, they are ready to receive the full union wage.

Mr. Preece has said that it takes from three to four, and sometimes five years to make a bricklayer, and we presume he knows what he is talking about. The contractors who have worked out the Indianapolis plan seem to agree on this point.

Another plan that was seriously suggested at the common brick convention, was that of having the brick manufacturer train a certain number of laborers on his plant with the hope of supplying some of the lack of skilled mechanics. This plan, altho possessing some merit, places the burden where it does not belong, namely, on the brickmaker. The brick manufacturer has all he can do to produce a product of merit, and to sell it, and should not be expected to train the men who are to lay it up in the wall. The Indianapolis plan is better, inasmuch as it places the burden of training brick makers where it belongs.

Plain Facts About the Coal Situation

IN THIS ISSUE appears an abstract of a paper presented by George Otis Smith, Director of the United States Geological Survey, before the American Institute of Mining and Metallurgical Engineers. It presents authoritative data that paints the best picture of the true situation in the coal industry that has ever been given. A study of the curves and charts which are simply graphical representations of statistics from the Survey's data reveals the seriousness of the coal industry's condition.

The immediate causes of seasonal fluctuations which is the bugbear of the industry, are car shortage, labor shortage, mine disability and "no market." An examination of the figures available shows that by far the major portion is credited to car shortage in the winter months and to "no market" in the spring months. For example, in April, 1919, the time lost due to the latter cause averaged over forty per cent. of full-time operation. This of course, results in a condition of car shortage when the demand rises in the fall and winter months. It is interesting to note that during the period from 1910 to 1918 only 10.6 per cent. of the time lost in the bituminous mines was due to strikes.

The various classes of consumers affect the seasonal fluctuations differently. Householders for instance, who consume nearly twelve per cent. of the total production use only about two million tons in July but require ten million tons in January. Fortunately, the clay products industry makes its heaviest drain upon the coal production during the summer months.

These seasonal slumps affect adversely the miner, the operator, the railroad and the consumer. They all suffer, but as always, the consumer pays the bill. The solution to the problem must be the improvement of the "load factor." Seasonal fluctuations should be diminished and attempts made to encourage the steady production and distribution of coal. To do this it is necessary to store coal in summer to meet the winter demand. Furthermore, this storage must be at or near the point of consumption.

Reduced prices and diminished freight rates during the spring and summer will be effective

towards encouraging summer buying, but before this will be done on a sufficiently large scale, the consumers must learn that coal can be stored without serious danger of fire or deterioration. This can be done if the purchaser will follow certain simple rules in the storing of coal. It has been proved many times that bituminous coal can be stored safely and that it will suffer little or no depreciation if reasonable care is used. Moreover, several clay concerns have followed this practice to a small scale and have found it very convenient.

The biggest objection raised to the plan of summer storage is that an enormous amount of capital would be tied up in coal storage equipment and in the stored coal. It does cost considerable to build a coal storage plant and it is also true that the storage of coal means an extra handling expense. On the other hand, a few shutdowns of any plant due to the inability to get coal would more than offset this cost. That such shutdowns are likely to occur, the experiences of the last few years furnish plenty of evidence. Coal strikes, railroad strikes, shortage of cars, unusually severe weather and similar factors will continue to be possible causes for an interference in the production of coal.

* * *

Residence Construction Still Dwindling

AN AUTHORITATIVE REVIEW of the nation's building activity during the first three months of the present year reveals the astonishing fact that whereas contracts awarded in the first quarter of 1919 amounted to \$275,555,000, a similar record for the first quarter of 1920 gives the value of contracts awarded as being \$780,408,000. Following further the building figures for January, February and March of this year, we learn that 34 per cent. were industrial structures, only 19 per cent. residences and about the same percentage for public works and utilities.

It is exceedingly apparent that the work which has been held up is in the residential group, that is the smaller building operations. Normally, this group is said to account for about 30 per cent. of the total amount of build-

(Concluded on Page 857)

INDIANAPOLIS SOLVES BRICKLAYER APPRENTICE PROBLEM

Contractors Hit Upon Highly Practical and Workable Plan to Avert Threatening Shortage of Skilled Mechanics in the Bricklaying Trade, at the Same Time Overcoming Heretofore Serious Objection to Taking on Apprentices

By Murray E. Crain

Indianapolis Representative of "Brick and Clay Record"

EDITOR'S NOTE: We are indebted for the following timely article to the trusty "news nose" of R. O. Cosler, formerly manager of the brick department for F. B. Stevens, Detroit. Mr. Cosler, in commenting upon the Indianapolis plan, writes:

"It is a fact the bricklayers' unions everywhere, until recent months, protested against and strongly opposed the employment of an apprentice. And I believe any similar action on the part of a contractor was but an outward manifestation of a desire to please union labor.

"Walter Wise, formerly president of the National Association of Brick Contractors, has with the aid and assistance of the local union caused to be established at the Indianapolis Technical High School, under the tutelage of Arthur Flagg, president of the local bricklayers' union, a class in bricklaying. Students in this class are carefully selected and are paid \$9.00 per week by the Brick Contractors' Association while learning the trade. On Saturdays they are given practical experience on buildings by members of the contractor's association.

"Other classes are now established or arrangements have been made for their establishment at South Bend, Ft. Wayne, and Terre Haute, Ind.

"It would therefore seem that with a little of the right kind of encouragement, the unions will do their part."

FOR SEVERAL YEARS the cry has been "More bricklayers!" Brick manufacturers have not been as interested in the subject as they should, yet, many members of the brick manufacturing fraternity have recognized the justice of the cry which has gone up: "More and better bricklayers!"

This slogan expresses the need of the contractors of Indianapolis, in common with most of the others in the country today. More bricklayers have been a crying need; yet even more important has been bricklayers *who know their business*, and the Mason Contractors' Association of Indianapolis, headed by Walter Wise, is on its way to getting both more and better bricklayers. This is easily said, and not so easily done, yet Mr. Wise's message to all members of the contracting business as well as brick makers, is that it can be done, and

with less difficulty than might be imagined. As proof of this, he points out that what was originally regarded as an experiment in Indianapolis already has passed that stage, and the innovation is regarded as so successful that South Bend, Terre Haute, Muncie, and other good-sized Indiana cities, boasting contractors' organizations, are preparing to institute the same plan.

Mr. Wise, as a contractor of vision, has for a long time been struck with the difficulty of getting bricklayers. He felt that this was not only unfair to the building trades and those who wished to build homes and were delayed by lack of competent aid, but to the embryonic bricklayers themselves.

APPRENTICE A NUISANCE TO CONTRACTORS

Under former conditions, an apprentice who finally induced a contractor to accept his services was nothing less than a nuisance to everybody on the job. It wasn't his fault, but that did not alter the facts. The bricklayers themselves were busy with their work, and did not have either the time or the inclination to initiate the apprentice into the mysteries of the craft. Had they done so, the contractor might have felt, with reason, that he wasn't getting a fair return from the outlay in wages. In other words, he was paying bricklayers to lay brick, and not to act as tutor to some young fellow who might or might not have developed under proper care. As a result of this sentiment, apprentices spent comparatively little time in laying brick and a great deal in doing other odd jobs around a building, such as carrying or mixing mortar, or building scaffolding. It was natural enough that it took years to turn out a bricklayer under this regime, and the finished product, in many instances, was none too capable.

FOLLOWS HIS OWN ADVICE

This was all wrong, and Mr. Wise realized this fact. Last year he was one of the speakers at the meeting of his national association, and he proceeded, as usual, to preach the gospel of more and better bricklayers. His colleagues heard him out, and then queried: "Well, if it's such a good stunt to turn out bricklayers who know their business, why don't you go ahead and do it?" And Mr. Wise, finding this counsel good, went ahead and did it.

The seed had already been sown among his associates in the Indianapolis association, and it was a comparatively easy matter to enlist their financial support, especially as this phase of the work did not call for a great investment. It was found also that the folk at Washington were far-sighted in this re-

spect, at least. Provision had been made for a Federal appropriation for vocational training, the condition being that any state, to secure an appropriation for this work, must itself contribute an equal sum. In Indiana, the state has taken greater strides along this line than in most others. Yet the fact is that any group of men can start such a bricklayers' school.

The Indianapolis bricklaying classes are held in the fine quarters provided by the Technical High School. Yet if this school were not in existence, the same results could be obtained by putting the same plan into effect in less pretentious quarters. There is no reason why any group of brick manufacturers or contractors can not duplicate the work being done in Indianapolis.

SCHOOL AUTHORITIES LEND COOPERATION

The school authorities in Indianapolis manifested a disposition to work with the contractors in the establishment of a school of bricklaying, and suggested that the builders submit a list of three names, from which the instructor was to be drawn. This was done, and Arthur Flagg was named as the instructor.

It so happens that Mr. Flagg is the president of the local Brick Layers' Union in Indianapolis. However, this fact has no particular bearing on the situation. He did not know that he was slated for the work, and hence, his selection did not expedite the establishment of the school. Mr. Flagg is paid by the state, his salary being the regular bricklayer's wage of \$45 a week.

Before any great headway could be made in the project, it was necessary to secure the approval of the local bricklayers' union. This was one of the obstacles in the path, and Mr. Wise attended several meetings of the union before he could obtain the desired O. K. A rather strong faction was opposed to the school.

UNION SHIES AT PLAN

"Whenever a contractor comes before a union and asks for a favor, look out!" warned one member. "If this school thing goes thru, they'll be turning out bricklayers in a year that will know more than we do after seven years."

"That's a good argument as to why you should favor the school," retorted Mr. Wise. He showed the bricklayers why, if brick was to maintain its position as the logical material for buildings of all kinds, it was necessary that contractors be able to secure labor to put up these buildings. Eventually, the union men saw the light, and a sufficiently large majority voted in favor of the plan.

It was not difficult to secure sufficient young men who want-

ed to learn the trade, particularly at the prevailing prices of a dollar an hour for a full-fledged bricklayer. The candidates ranged in age from 16 to 22 years, and most of them were already wage-earners. The need of some sort of selective system was realized, but the mere fact that these candidates were earning from \$12 to \$25 a week, and were willing to accept a cut to \$9 was taken as sufficient indication of good faith, and of their willingness to apply themselves.

STUDENTS PAID WHILE LEARNING

As indicated, each student at the bricklaying school receives \$9 a week. This sum is contributed by the contractors, each of whom has a protege in the school. The names of the sixteen students were put in a hat and a drawing held, one pupil being assigned to each contractor. However, Mr. Wise favors a change of this system. He believes the whole matter should be handled by the organization, and that the individual members should pay the money into the association, which should distribute it, and assign the students to jobs.

The first school began January 1, and will, according to present plans, end with the regular school year in June. After that time, the sixteen students will work regularly with the contractors who financed their schooling.

The curriculum at the Technical High School is as follows:

8 to 9:15 A. M.—Mathematics.

9:20 to 12 noon—Shop Work (brickwork).

12:40 to 2:10—Brickwork.

2:15 to 2:50—Civics.

2:55 to 4:30—Drawing.

"Why the mathematics?"

IS CONVINCED MATHEMATICS ARE NECESSARY

This was the query of one fretful student at the school, who wanted to learn bricklaying and didn't care about the frills. Mr. Wise spent fifteen minutes with this youngster and quickly convinced him that this phase of the work wasn't merely put in to make it more intricate. He showed him a set of plans, and pointed out the necessity for a knowledge of mathematics in getting up a layout and figuring the number of brick to be used. The student saw the point immediately and returned to his classes with a better understanding of the whole scheme. This explanation of the relation of each part of the course to the whole is worth making, it is believed. Many a youngster taking the standard curriculum in the public schools spends as much time trying to figure what it is all about as he devotes to his study. A few minutes spent in giving the student the broader outlook is well invested.

The graduate of this course will be able to lay out his



Some of the Students in the Class of Bricklaying Instituted at the Indianapolis Technical High School Thru the Efforts of the Contractors of That City and an Example of Some of Their Class Work.

own plans and go ahead with the work whether or not the boss is around. He will be able to display some initiative. He will be a real bricklayer, which 99 out of 100 members of the trade are not just now, it may be said without prejudice.

REAL AMERICANIZATION WORK

And there is a consideration which some will regard as even more important. The course includes a study of civics. This means that the graduate will have a clear idea of the workings of this government, and will perceive the necessity of a plan which will consider the rights of all. He will get away from the theory that "might is right," as entertained by Kaiser "Bill" and not a few of the labor unions. Such bricklayers may enter unions, but if they do, they will take with them a wealth of good horse sense, and will not be inclined to let a few agitators run away with the organization. The I. W. W. is not the only association which is finding it possible to get on the inside and bore out.

HOW BUDDING BRICKLAYERS ARE PAID

The scale for the first six months of instruction, as indicated, is \$9 a week, enough to keep the student in food and other necessities of life. For the second six months, during which he will be employed on regular building jobs, his pay will be \$12 a week; for the second year, 40 per cent. of the regular bricklayer's wages; for the third year, 60 per cent. and for the fourth year, 80 per cent.

Why should a contractor spend \$9 a week on an apprentice, when his only return is the work that apprentice does for him on Saturday morning? That is the question frequently asked, and one which Mr. Wise has no difficulty in answering.

"An apprentice who has had six months at a school such as this is worth half of the pay received by a full-fledged bricklayer," he explained. "This would be 50 cents an hour, or \$4 a day on an eight-hour day. This amounts to \$24 a week, but the contractor is getting his services for \$12 a week. He saves \$10, on an extremely conservative estimate, and sees his \$9 come back into his pocket with interest. The other

considerations, such as a workman better equipped for his job, and more sanity among the unions, are velvet."

However, Mr. Wise favors an increase of the pay for the second six months to \$15 or so, in order that the student may get all of the encouragement possible in these days of high living costs. He believes ambitious youngsters should not be called on to make too much of a sacrifice, despite the fact that they will ultimately make big money.

He is also considering the advisability of urging six months of school, followed by three months of practical experience in the summer, and three or six more of school. He believes the combination of theory and practice would be a strong one. The cost to the contractors, of course, would be greater. Whether or not this is a serious objection remains to be seen.

SMALLER CLASSES BETTER

The class of sixteen has proved a bit unwieldy for the best results, and the next school probably will be divided into classes of eight, so that the maximum amount of individual instruction can be given to each member. This is a simple matter, since the instructor in bricklaying does not also teach mathematics or civics. A different instructor is used for each subject.

That is a brief story of the efforts being made by the Indianapolis contractors to develop some real bricklayers. The plan has been handled without aid from any other source. Mr. Wise is an exponent of advertising, and he noted with interest the plans for a campaign by brick manufacturers.

"It is good business to advertise, of course," he said, "even when brick manufacturers are oversold, as at present. I sincerely believe, however, that at least half of the money to be spent for advertising might be more profitably invested in such schools as we are operating. Assuming that brick manufacturers do increase their production to the point where they can supply all demands, it is still a question whether contractors will be able to handle the increased production with the available supply of bricklayers. One point is fully as important as the other."



NOTES *from the* NATION'S CAPITOL

THE PAST FORTNIGHT has shown no important development in the brick rate case, being conducted by Francis B. James, Washington, D. C., and associated attorneys in the interests of the American Face Brick Association, the Hollow Building Tile Association and the National Paving Brick Manufacturers' Association. The real action is expected to ensue early in June, the Interstate Commerce Commission having called a hearing on Monday, June 7; a previous hearing, slated for May 3, has been cancelled. The hollow gypsum tile case, which has been re-opened upon the application of the brick interests, has been assigned for a hearing at St. Louis, Mo., on May 8.

The American Railroad Association, Washington, D. C., thru its Car Service Commission, headed by W. C. Kendall, chairman, is taking concerted action to improve the freight car supply—this will be good news to clay products interests, and with eager hopes that it may come to pass. These industries and the mason material dealers dependent upon the railroads for supplies have been heavy sufferers during recent months on account of the freight car shortage. Reports compiled by the commission show noticeable improvement in the situation; prior to March 15, the daily average shortage of freight cars was about 90,000 cars, and this has been reduced by at least 10,000 cars a day. It is expected

that the total will be lowered considerably at an early date. The shortage is about equally divided between box cars and all others. Progress is also being made along the lines of having freight cars returned to their "home" lines, the object being to give the various roads the benefit of the particular types of cars best suited to their requirements.

Present indications show that the House of Representatives, Washington, D. C., will be in session thruout the summer months. If this comes to pass, it is possible that some legislation may ensue along building lines, that will help the construction movement thruout the country. Summer weather, however, at Washington is not of the most inspiring nature, and definite action will more readily take place in the fall.

The United States Labor Department, Bureau of Conciliation, Washington, has compiled statistics, showing that approximately 95,000 workmen in this country now are striking or threatening to strike (April 7). Strikes have been on the increase since January 1; during this first month of the year, 7,497 workers were affected, directly or indirectly; in February this grew to 50,000, while in March the total stood at 145,053. This report does not include certain localized strikes which would go to enhance the totals. It is estimated that 1,000,000 workers will be affected by strikes during the present year, as against more than 2,000,000 in 1919.

DIVIDING PLANT PROFITS *with* YOUR EMPLOYEES

*A Singularly Successful Method of Paying Wages to
Clay Products Factory Workmen That Solves Many of
the Labor Problems Now Confronting the Manager*

By H. R. Straight

Secretary-Manager of the Adel (Ia.) Clay Products Co.

A WORKMAN in this day and age, in order to be a satisfied and efficient employe, must, with a few rare exceptions, be well paid and able to live in a fair degree of comfort at least. With the margin of profit that the average clay plant operator and owner is at present enjoying, it is not possible to pay the wages usually conceded to skilled workmen of the highest class unless the men on the plant use their heads as well as their hands to boost the output of No. 1 ware. In order to accomplish this last-mentioned point, it was felt necessary by the writer, seven years ago, to plan some system of paying wages or dividing the profits of the plant among the employes according to the results obtained.

However, satisfactory results can only be realized in a manufacturing plant such as is operated by the writer, by securing the following four primary conditions:

1. The workman must know that the employer, in order to pay top-notch wages, must be able to rely upon the workman's presence at work every day and that when he is not present his absence will be felt by the entire plant to some extent.

2. The cooperation of workmen must be such that they will do all in their power to make each and every piece of ware they handle, of such quality that it will go out as No. 1.

3. The workman must be made to feel that for each piece, or ton, that he fails to handle in the plant, at whatever stage of the process it may be, when he is supposed to be lending his best efforts to the steady output of his department, his wages will be affected to a certain extent when his entire compensation for the month is taken into consideration.

4. Every man on the plant must understand as thoroly as possible that, for the employer to be able to pay out part of his profits the output must be above a certain point to cover the overhead and ordinary running expenses and that if he (the workman) is not paid a part of the profit, it is because the employer is not making any return on his investment.

With these conditions in mind and with the cause of failure of a number of bonus systems at hand, I set out several years ago to design a premium payment or profit sharing system, that would be so simple that any workman could easily understand it but yet which would have rules so plainly laid down that every detail that might come up in the future would allow the workman to apply the rule himself without asking questions.

NO EXCUSES FOR ABSENCE ACCEPTED

My first decision was that the rules must be such that absolutely no excuses, regardless of whether or not they are really legitimate must be accepted. This particularly to absences which might affect, according to the rules, a part of the profit paid the workman.

In several cases it has been found, where a profit sharing system has been tried, and where legitimate excuses have been accepted, that workmen would become so ingenious at inventing "legitimate" excuses and presenting them in such a plausible manner that the employer could not help but accept them. Of course it would become known sooner or later by the employer in a good many cases and by the employe in most cases, that many excuses should not have been accepted and the result was no end of trouble and dissatisfaction and of course the employer was at a loss to know what to do.

We have always found that a slightly dissatisfied employe in our plant was a source of trouble and a detriment to the entire plant and to the balance of the fellow workmen. We have also found that where a fixed rule is absolutely followed in all cases, it is as fair to one as to the other, and the loss of any share of the profit, which would ordinarily have been due to the employe had his attendance been perfect, does not cause him to be dissatisfied for he knows that when some other employe has lost some of his share he will gain the amount he had lost back in the long run.

It is, therefore, plain that the only way to figure the correct premium a man should be paid is according to the hours which he actually puts in and this is worked out as an iron clad rule in the following manner:

RULES COVERING LOSS OF TIME

A man can lose ten hours, or one day, per month without losing any part of his premium or profit. If he loses more than one day and up to two full days, he loses one-quarter of his share. If he is away more than two days and up to thirty hours, he loses one-half of his share, and the loss of more than thirty hours causes him to lose his entire share of the profit, above his basis wage, for that month, and of course any share that he loses is put in the general bonus fund which is divided among all the balance of the workmen according to their steadiness.

In the case of anyone putting in more than a few minutes extra time for oiling up, or like work, an additional bonus must evidently be allowed, because of the fact that these men contribute more toward the making of the monthly tonnage of finished ware than those that are only working a day of ten hours. The divided profit is therefore proportioned to such men according to the number of hours per month that it is necessary for them to work and when workmen put in more than 25 per cent. more time than the time ordinarily worked, the amount of time that a man may lose without losing any bonus is increased by one day of whatever hours he may be working. In other words a burner that works twelve hours per day and seven days per week puts in a little over 30 per cent. more time than a man working only six ten-hour days,

and accordingly his percentage, in figuring the divided profit, is 130 per cent. instead of 100 per cent. as ordinarily.

HOW THE PROFIT SET ASIDE IS COMPUTED

The division in our particular plant is started at 2,000 tons of No. 1 ware per month and for each ton until 2,500 tons is reached, \$1 per ton is put into the general profit sharing fund. From 2,500 to 3,000 tons, \$2 per ton is added. From 3,000 tons on up, \$3 per ton is added. At times, on this basis, when the divided profit fell to a low point circumstances in our plant were such that the operation of the plant was at practically a loss. Under the conditions in which we operate, the bonus is so proportioned that the total cost for labor per ton of ware is practically the same at 3,500 tons as at 2,000 tons, which is of course as it should be.

FOREMEN RECEIVE ONE-FOURTH MORE THAN WORKMEN

It is evident, of course, in planning such a system that the foreman who is expected to take the lead and upon whose efforts more than the efforts of the ordinary workman, a high tonnage depends, should receive a slightly greater portion of the divided profit than the ordinary workman. Accordingly, it was decided that he be paid a 25 per cent. greater share than his men but, of course, if the foreman lost more than the three days he could not share the bonus at all.

By allowing the foreman a little additional bonus it was looked upon by the ordinary workman as an extra incentive for him to become a foreman and the result is naturally a subconscious effort on the part of each workman to become an understudy of the foreman's method so that he can when the time comes fill the foreman's place with a credit to himself. We have found that in most all cases, the absence of the foreman for a few days has only caused a little difference in the output in the particular department on account of the next man in line being able to step up and take his place.

It is found in many cases, men who were compelled to be absent could secure a workman not already employed at the plant to take his place when he was gone and when such workmen were furnished entirely at the efforts of the absent workman with the approval of the superintendent, no deduction was made from the absent man's monthly bonus. This rule overcomes to a certain extent the loss of output due to vacant places in any gang, and since we have of late years generally had a waiting list of workmen, all gangs are kept at a relatively high standard of efficiency.

EVERY WORKMAN STRIVES FOR NO. 1 WARE

Since the divided profit practically depends entirely on No. 1 finished ware actually on the yard or in cars ready for shipment, there is naturally an effort on the part of every workman to prevent anything in the way of second grade material being made. Those in the department where the molding is done use the greatest care possible to make each piece perfect when ready for drying. The men handling the material into the dryer and the heat to do the drying, naturally keep uppermost in their minds precautions necessary to turn out perfectly dried ware. Men setting the kilns realize that a damaged piece of ware going into the kiln will in the long run cause a slightly decreased divided profit on account of less labor being involved to run the damaged piece thru again than to burn and to select out the damaged ware after burning.

In our case the ware handled out of the kilns can hardly be damaged and therefore as soon as the ware is ready for shipping our men handle large quantities rather roughly. We feel that our men handling burned ware realize that even they are paid no bonus or premium on second class ware unavoidably manufactured, yet they realize that such seconds can be sold by the employer at some revenue which will go towards helping increase the basis wage.

It is of course evident to all workmen that the more men turning out a certain tonnage required, the more there will be in on the division of the profits which, of course, cuts down his monthly earnings and we feel that most of our workmen are using their heads to increase the output per man. We encourage labor-saving machinery and for the above reason our men do also and accordingly we have received many valuable suggestions from workmen which, when adopted, have resulted in a benefit to all of us concerned.

OVERCOMING THE DISADVANTAGE OF HIGH WAGES

Nearly everyone knows that the average individual cannot stand prosperity, and it has probably been experienced by brother clayworkers that a certain class of men when paid high wages, feel that real luxury can be enjoyed. This, of course, is all right so long as the workman can really afford it, but luxury usually means time off and the employer knows that in order that they may pay a return on his investment, he must have men upon whom he can rely with a reasonable degree of certainty day in and day out. It is true that it is necessary for each workman to make his provision, his regular business the same as the superintendent or general manager makes the running of the plant his business. To make the workman feel that the company will suffer if he is absent, the rules have been made so that the pocketbook of the employer and employe are affected equally by the workman's absence.

It is very easy for the employe, from our simple rules, to figure out what it will cost him to lay off a half of a day to attend the ball game or go fishing. When conditions are favorable towards a large output a loss of a half of a day over the one day allowed during the month may cost him as much as \$25, and he generally concludes that the fish that he might catch are hardly worth gambling on and the result is that he is generally at his place in the plant.

Men that lose a few hours sometimes wish to make up the time, and where there are extra jobs on Sunday that can be done at no other time, the rule has been that the lost time may be made up if there is such work available, and in this way men that have lost time unavoidably are generally anxious to help on such overtime work and one of the unpleasant features of running a plant to capacity is thereby overcome.

In conclusion, allow me to state that the employer that has been using certain classes of workmen and who thinks that he can secure no better, should investigate a method of dividing in an absolutely fair way a part of his profits. We can prove our profit sharing system takes into account all of our charges, such as interest on the investment, depreciation, depletion, etc., and allow me to state that after running our plant for seven years under this system we would much prefer to close our plant rather than change to any other system of wage payment that we know of at this time.

We would be very glad to hear from fellow clayworkers as to any changes in the slightest detail that they might suggest may be of benefit to us. We would also be glad to send a set of our concise rules to brother clayworkers, and we acknowledge the fact that we believe our workmen are entitled to a portion of the profits.

* * *

A Face Brick Display of Considerable Fame

From present indications, the fad of installing artistic face brick exhibits is at its height again. A considerable number of face brick manufacturers and dealers have recently prepared or are now preparing new ideas for the effective display of this beautiful burned clay commodity.

Those who have not yet visited the beautiful face brick display in the reception rooms of the Cincinnati Clay Products & Supply Co. have missed one of the most delightful and informing experiences of a life time.

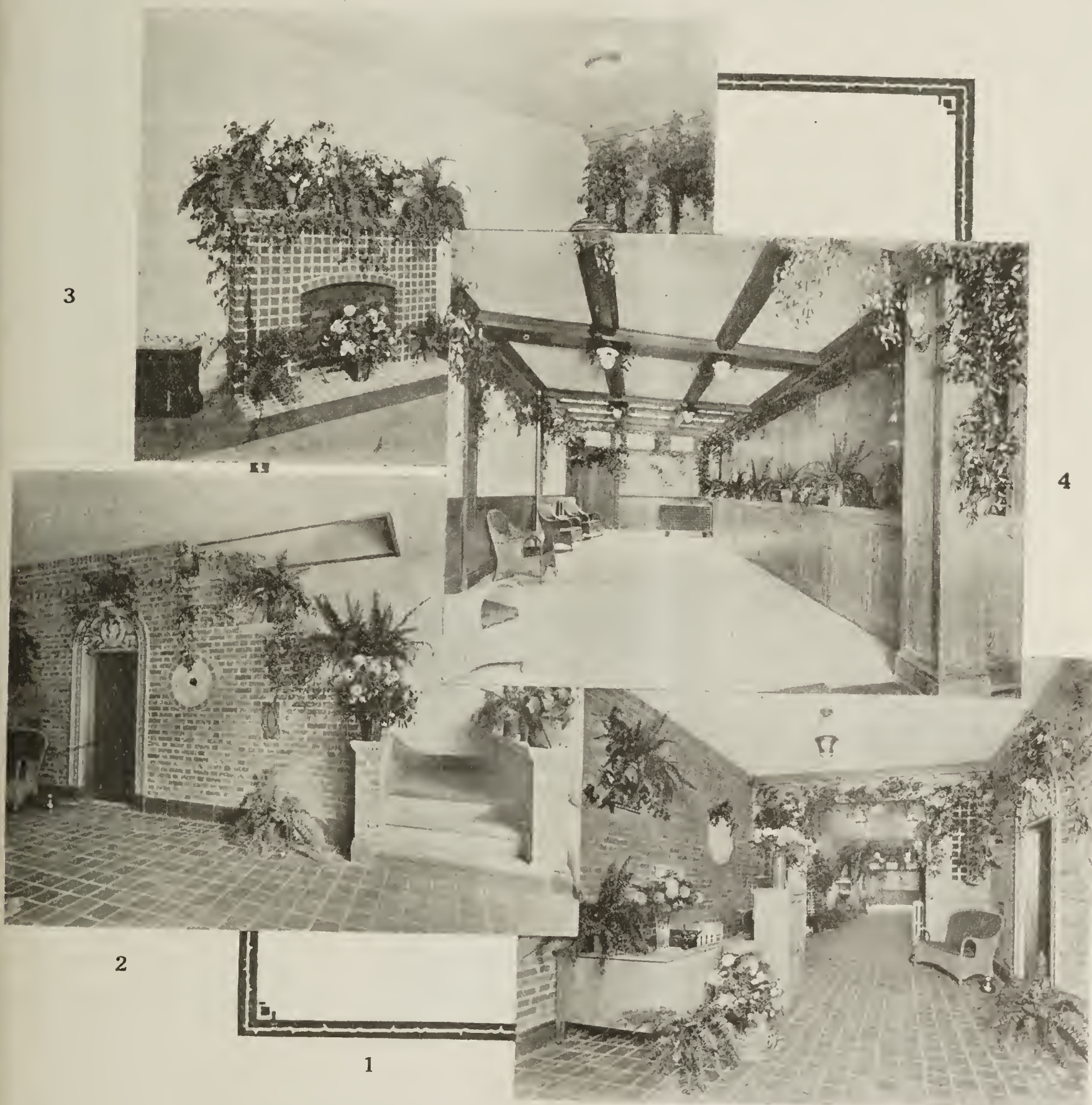
This exhibit, which has been built up as a result of years of practical study and direct contact with every phase of face brick production and construction, is especially the product of the genius of Jno. M. Stoner, president of the Cincinnati Clay Products & Supply Co., and former president of the Face Brick Dealers' Association of America. Competitors may criticise or display their natural envy as they will, but the fact remains that there probably does not exist in America today, or anywhere else for that matter, a retail face brick exhibit of such perfect artistic finish, or arranged to so strategically focus the attention of the prospective purchaser upon the fine points of any individual make which may be worth showing.

Already the fame of this exhibit, which might far more appropriately be termed a sales and reception room, has spread far beyond the bounds of Cincinnati, and visitors are almost daily dropping in from far distant points.

With even the slightest measure of publicity, this sales room should prove the means of educating thousands of new prospects to an enthusiastic desire for the inclusion of face brick in their home and industrial construction contracts.

We are glad to be able to reproduce herewith several glimpses of these unique display rooms. It is possible for them to but faintly suggest the beautiful reality, with its color scheme of tile, brick and wood work which has been most carefully and tastefully harmonized. We are indebted to the courtesy of Mr. Stoner for these views of the display rooms. In forwarding them he encloses the following memoranda:

"Kindly note that the first photograph shows our north and south walls looking toward the rear of the building. This is our reception room, showing the telephone exchange and the information desk. It has a clay tile floor 6x6x1; has brick walls with inserts of terra cotta.



Beginning at the Lower Right Hand Corner We Have First the Entrance and Reception Room of the Cincinnati Clay Products & Supply Co. Exhibit. Directly at the Left Is the Stairway, South Wall and Basement Entrance. Immediately Above it Is the Clay Tile Mantle. At the Right of This Is the Brick Display Room Proper, Showing Wall of Cases Holding Trucks of Brick Panels Which May Be Pulled Out for Examination.

"The second room is our specialty room, and the third our brick display room. This is all on the ground floor on the level with the sidewalk, which gives a splendid opportunity to the people passing by to see the possibilities of the use of brick. I question very much if there is any other display like this in the United States.

"The second photograph shows the south wall, and the stairway leading to our second floor, and also the door leading to the basement. You will note the casing of this door is terra cotta.

"The third photograph is a mantel made of 3x3x2 clay tile, manufactured by The B. Mifflin Hood Brick Co. and is located in our specialty room.

"The fourth photograph is our brick display room, and it may seem strange that there are fewer brick shown here than in either of our other rooms, but our panels are built on trucks, and concealed in stalls; and after we have our customer come in and get his opinion as to what he might purchase, we then pull out the panel that he has described from its stall, and if he is pleased with this, we show him no other. However, if he does not like it, we put it back before bringing the second one out. In this way, we concentrate his mind on the one panel, and find we can close an order in much less time than we can by confusing him with so many panels."

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A House Organ With a Punch

Volume 1, Number 2 of "Fraserclay," which, according to the subscript appearing on the title page of that booklet, is "A friendly message reflecting the building activities of the state of Texas and devoted to our friends, The Lumber Dealers, Architects, Contractors and Builders," is an interesting house organ published monthly by the Fraser Brick Co., with offices in the Sumpter Building, Dallas, Texas.

In this pamphlet, which measures 5 $\frac{3}{8}$ by 7 $\frac{3}{4}$ inches and contains sixteen pages of interesting reading matter, are short items on various timely topics. The first article deals with the attitude of a big lumber man towards hollow tile. It is a report of an interview with the managing buyer of one of the larger lumber companies operating a big chain of yards and points out clearly the great regard the lumberman has for hollow tile and hints to a bright future for that commodity with lumber dealers.

Other items under the titles of "Lumber Being Replaced by Clay Products," "No Inflation in Interlocking Tile Prices," "Clay Products and Building Costs," "Coping With Present Conditions Most Efficiently," are also included in the booklet. Besides these articles there is published an interesting description of one of the clay plants operated by the Fraser Brick Co., together with information on how the clay ware is manufactured.

Moreover, there are two items included in the bulletin telling of the promotion of J. J. Ryan to production manager and the acquisition of Amos P. Potts to the organization.

The front cover page of "Fraserclay" was first modeled in clay, then photographed, and the color plates made from the photograph.

The officers of the Fraser Brick Co. are W. B. Fraser, president; J. H. Payne, vice-president; and J. J. Ryan, secretary-treasurer. Mr. Payne is editor of the house organ "Fraserclay."

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Who Knows of a Red Plastic Clay?

A prominent ceramist in this country has recently received a sample of clay from Greece which is supposed to be the material used by the ancient Greek potters in fabricating their famous ware. An examination of this clay reveals that it seems to have certain wonderful properties.

Thus far the efforts made for a long period of years by the above ceramist to locate a good red clay in this country have not been successful.

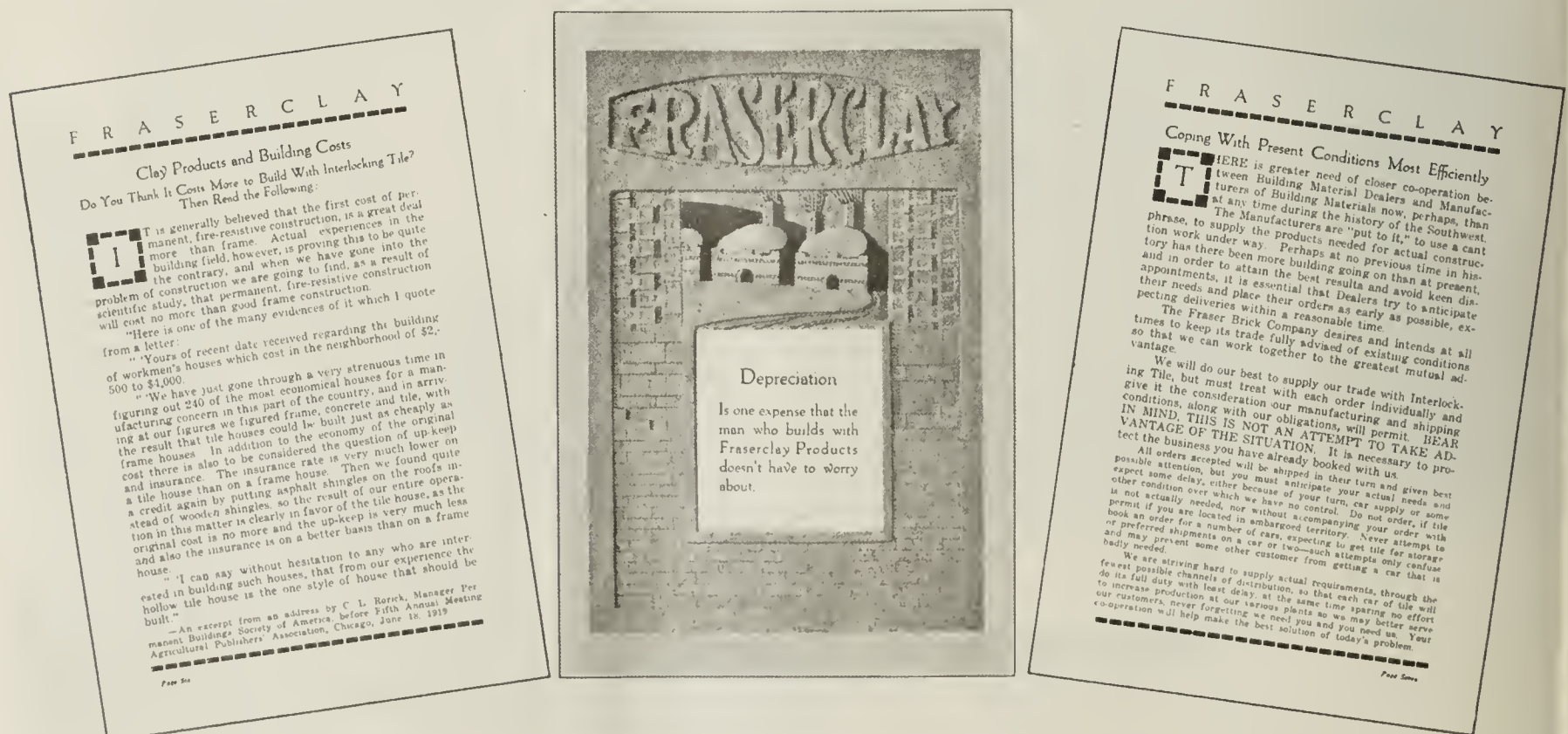
Brick and Clay Record believes that somewhere in the broad expanse of this continent there is a deposit of plastic red clay, not shale, that some reader may know of. If such a party will get in touch with *Brick and Clay Record* we will be glad to refer him to the person seeking this clay. A deposit of rare clay such as this would undoubtedly be quite valuable.

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It has been announced from Monterey, Mexico, that the exodus of Mexican laborers from that country to the United States is increasing.

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"A gracious 'thank you' always reflects credit upon the one bestowing it."



A Reproduction of Two Representative Pages of "Fraserclay" and a Facsimile of the Front Cover Which Was Originally Modeled in Clay and Then Photographed.

COAL PRODUCTION FLUCTUATIONS—FACTORS CONTRIBUTING THERETO

A Detailed Analysis of Authentic Facts Relating to the Coal Industry in This Country

AN ELECTRICAL ENGINEER has supplied us with the phrase that best expresses what is wrong with our coal industry—it is the "bad load factor." Whether we refer to full rated capacity or to average output, the operation of the soft-coal mines of the country from year to year, from month to month, and from day to day presents a load factor that has been too productive of high costs and uncertain supply.

The fluctuations in coal production can be regarded as annual, which in a large way reflect nation-wide business conditions; as seasonal, which express conditions of market and distribution; and as daily, which express conditions of labor and car supply. In Fig. 1, the facts of coal production, labor supply, mine capacity and average return to the industry per ton produced, are set forth in curves for the 30-year period 1890-1919. At the base of the diagram is a graphic statement of lost time in mine operation, which is the measure of wasted opportunity for the economic use of both plant and labor.

The statistics thus presented are weighted averages for the industry spread over the country and carried on under conditions that are widely divergent from place to place.

MINES HAVE CAPACITY; NEED OUTPUT

Mine capacity is seen to have kept well in advance of output, and this capacity curve, so far above even the emergency output of the war period, suggests strongly that the industry has become over-equipped and over-manned.

The blocks at the base of the diagram, representing lost time in the soft coal industry, show that in only seven of these 30 years was such lost time less than 25 per cent. of the working year. During this period, out of 308 possible working days a year, mines were idle on the average of 93 days. Ten times during that period the time lost exceeded 100 working days. The smallest loss occurred in 1918, the year of record production, yet even during that year the mines were closed down for nearly one-fifth of the time. These figures for lost time, remember, show only the days that the mines were not operated, but absenteeism of a part of the force when the mines were running still further reduced the output. That is, they show only the average opportunity offered to labor by the mines, not the extent to which the individual miner took advantage of his opportunity.

From a study of the diagram the conclusion seems justified that losses above 78 or 80 days are the measure of the effects of annual fluctuations, and that losses below this figure are attributal to season and daily losses.

The annual as distinct from seasonal fluctuation is not confined to the coal industry, and no help can be found for it

short of doing away with business cycles of good and bad years.

STUDY OF SEASONAL FLUCTUATIONS

There remains, however, that residue of lost time from which no moral year is free, and light on its causes must be sought in the study of seasonal fluctuations. To help in this study Fig. 2 has been prepared, on which the annual averages are shown by the heavy horizontal lines and the monthly fluctuations by the broken lines. The two pre-war years 1913 and 1914 are typical. The great extremes shown in the diagram for normal years occurred in 1915, when the rate of production rose in March to 123 per cent. and fell precipitately in April to 66 per cent. of the average for the year. In that year the normal seasonal fluctuation was intensified and distorted by the biennial wage negotiations. In one respect, however, 1914 was not typical. The autumn peak came in September and was followed, in the last quarter of the year, by a depression which marks the effect of the outbreak of the European war. In other years the peak was reached in November.

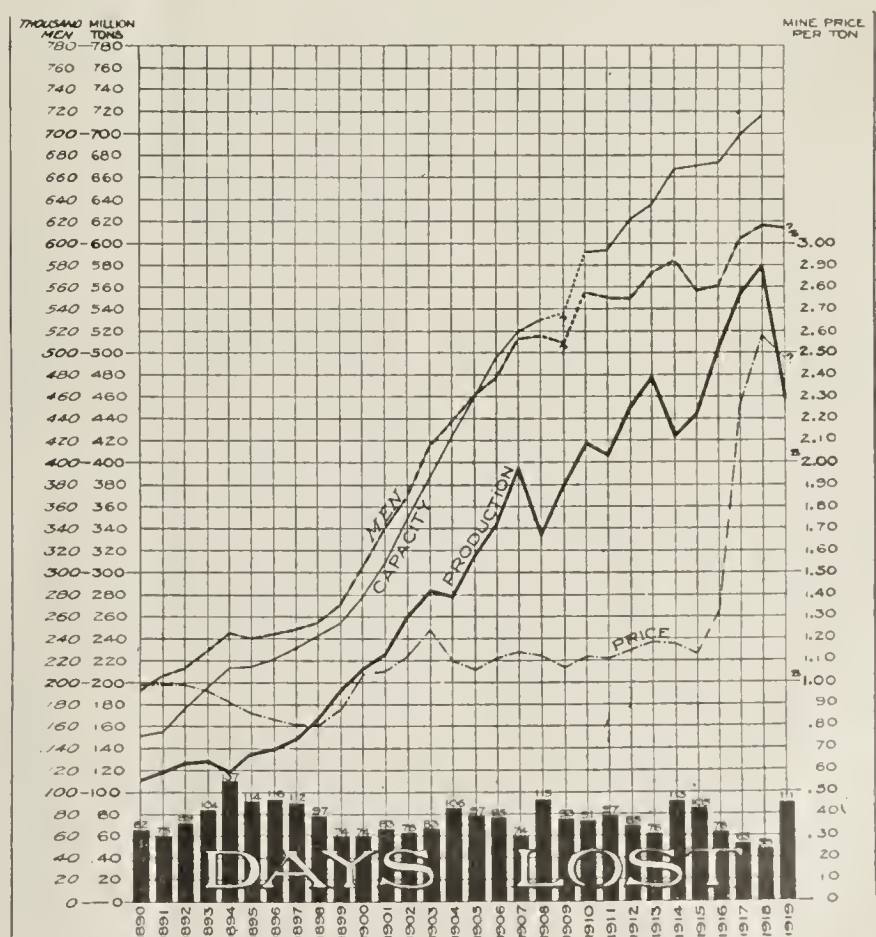


Fig. 1. Production, Capacity, Men Employed, Mine Price Per Ton and Days Lost at Bituminous Coal Mines, 1890-1919.

The year 1913 may be accepted as a fair type of the odd year, when monthly fluctuations represent seasonal fluctuations in demand only, uninfluenced by labor disturbances. In such

*This article is a reprint of an abstract which appeared in "Power," of a paper presented at the recent meeting of the American Institute of Mining and Metallurgical Engineers, by George Otis Smith, director and F. G. Tryon, of the United States Geological Survey.

a typical year the capacity required during the month of maximum demand will be from 35 to 40 per cent. greater than in the month of minimum demand.

SEASONAL BUYING AFFECTS PRODUCTION

To put it another way, even in years of active demand the present inequalities in the summer and winter buying of coal

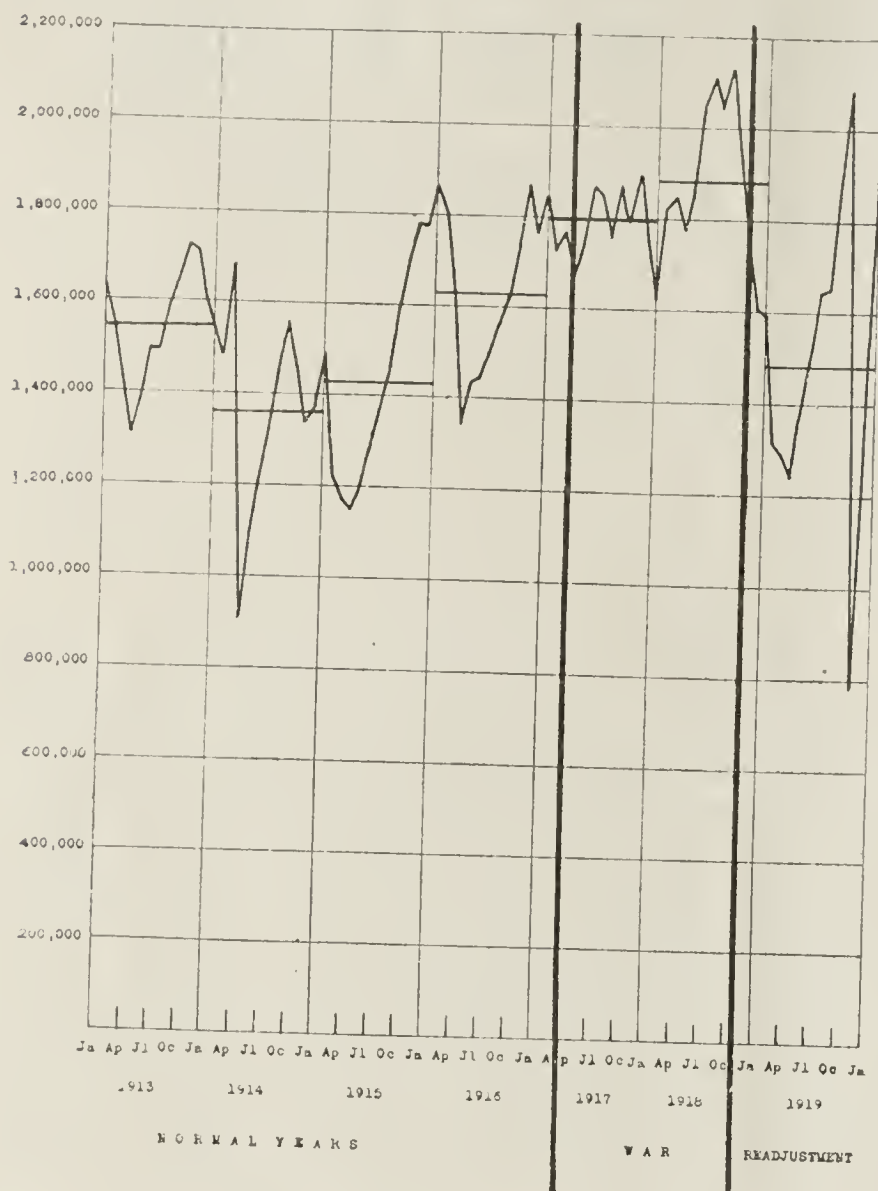


Fig. 2. Monthly Fluctuation in Coal Production.

render inevitable a long period in which the labor and capital engaged in the industry cannot work more than 27 to 30 hours out of a 48-hour week. Let no one regard this as a condition to be accepted as the measure of working time necessary to meet demand. As a matter of fact, the 30-hour week is the spring ailment of the bituminous-coal industry, not its cure.

In addition to the annual and seasonable fluctuations in production, a third set of fluctuations is exemplified in Fig. 3. The railroad works seven days a week; the mines work six days. Over Sunday the carrier catches up in its work of placing cars, and in consequence the car supply on Monday is by far the best of the week. As a result the miners work longest on Monday, but later in the week their hours of labor show a gradual decline, which is accentuated on Saturday by holiday absenteeism. Even if the mines should attain full time on Monday, they could not under the circumstances expect to work more than 86 per cent. of the time on Friday and 79 per cent. on Saturday.

The data on seasonal fluctuations so far presented apply to the country as a whole. The typical curve of production for the United States is in fact a composite of a large number of other curves, which differ widely from field to field.

A further contrast distinguishes the union from the non-union fields. Illinois and much of the northern Appalachian region shows, in the even years, a profound drop in April, which marks the biennial wage negotiations. The slump is regularly preceded by a period of active buying, which often

makes the March production the highest of the year. This effect is largely absent from the curves of the middle Appalachian region, which includes for the most part non-union mines.

REMEDY LIES IN CHANGE OF LOCAL FLUCTUATIONS

Another notable fact is the manner in which the fluctuations for different regions tend to neutralize one another. The demand in the regions served by the Chesapeake & Ohio and Norfolk & Western Railroads, for example, starts upward in February and March, at the very season when the Illinois demand has begun its dive downward. Combining the two gives a much flatter curve than either exhibits alone. The average for the country thus does not at all reveal the full extent of the disease from which the industry suffers. We have merely chartered the average temperature of a number of patients in which the severe chill of one patient is offset by the high fever of another. This all-country curve seems discouraging enough, but it is a fact which conceals much local trouble, and any remedy must be applied in terms of local, not national, fluctuations.

The shape of the middle Appalachian curve is determined largely by the movement of coal to the lakes for consumption in the Northwest. The lake movement has as its limits April 15 and December 1, and this necessity exercises a wholesome influence on working time in Ohio, western Pennsylvania, West Virginia and, to some extent, eastern Kentucky.

DEMAND FOR ILLINOIS COAL PRESENTS PROBLEM

The demand for Illinois coal illustrates seasonal fluctuations at its worst. During the "odd" years the demand in the slack month sinks to half what it reaches at the peak, and during the "even" years the production in April approaches zero. The causes of the summer slump are two-fold. First, the natural market for Illinois coals, as limited by transportation costs, is one in which domestic consumers rely largely on bituminous coal, and of all classes of demand that of domestic consumers fluctuates most with the seasons. In that market, unfortunately, the steadying effects of the lake and New England movements and of overseas exports do not enter. In the second place, Illinois coals do not store easily, and up to the present time they have not found favor with coke makers and therefore do not feel the steadying influence of the demand for coke.

It is perhaps significant that there is a rough relation be-

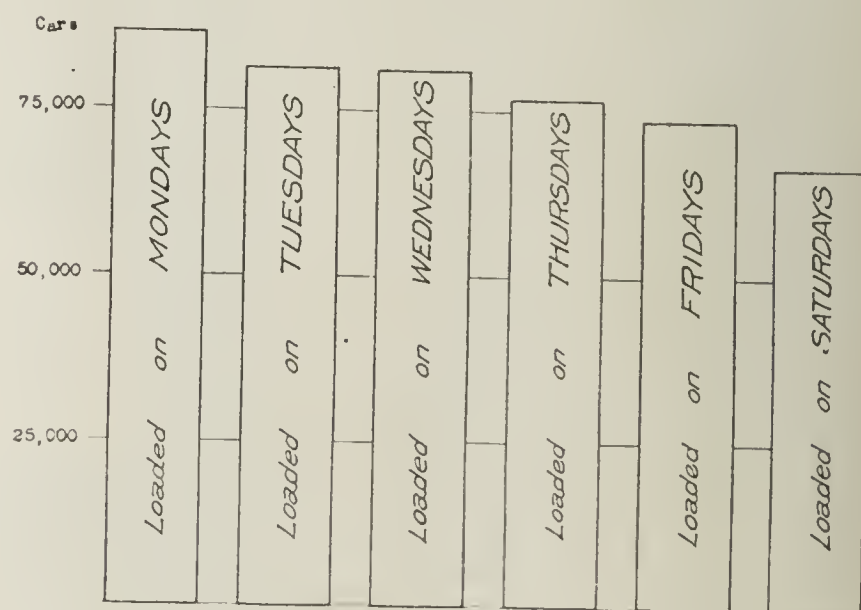


Fig. 3. Daily Fluctuations in Production Show Gradual Falling Off as Week Progresses.

tween the loss of working time and the degree of unionization. Those bituminous regions in which interruptions to operation are most pronounced show a tendency to become union territory. The presence of the union is both cause and

effect. Wage disputes cause lost time; but, on the other hand, irregular employment is in itself a prime incentive to unionization.

IRREGULAR DEMAND WORKS HARDSHIP ON EVERYONE

The fact of irregularity in working time is thus indisputable, and its extent is shown to be everywhere great, and everywhere it reacts favorably upon all who have a share in producing soft coal and all who have a share in consuming it. In long periods of idleness following a business depression it drives the miner to seek employment in other industries. The fact that we find the same large labor turnover in other industries should not blind us to the fact that these are causes as well as symptoms of industrial unrest. The question may even be raised whether irregular employment is not largely responsible for the failure of coal miners to take full advantage of the opportunity to work when the mines are open.

The case of the miner against irregular operation has already been forcibly set before the public. What is not so generally realized is that the case of the operator is just as damaging to him. His capital is idle, and his mine is rapidly depreciating. Altho the mine shuts down, his fixed charges run on—not only interest charges and salaries, but a host of maintenance charges as well. And in the end the coal consumer pays the bill for idleness of miner and mine.

HOW RAILROADS ARE AFFECTED

The effects of fluctuation in coal production on our transportation system can readily be appreciated. The coal mine is the railroad's largest shipper, and the railroad in turn is the largest consumer of coal; in fact, it has been remarked that coal is the nucleus around which our railroad system is built. The railroad suffers from the seasonal fluctuations in coal production as well as the coal-mining industry, for it meets the same seasonal demand. Equipment sufficient to transport all the coal that the mines can produce in November would in large part lie idle during the slack season of summer. The capital investment in coal-carrying equipment alone is of the same order of magnitude as the capital investment in coal mining, and it is no less desirable to provide constant employment for the railroad capital than for the mine capital.

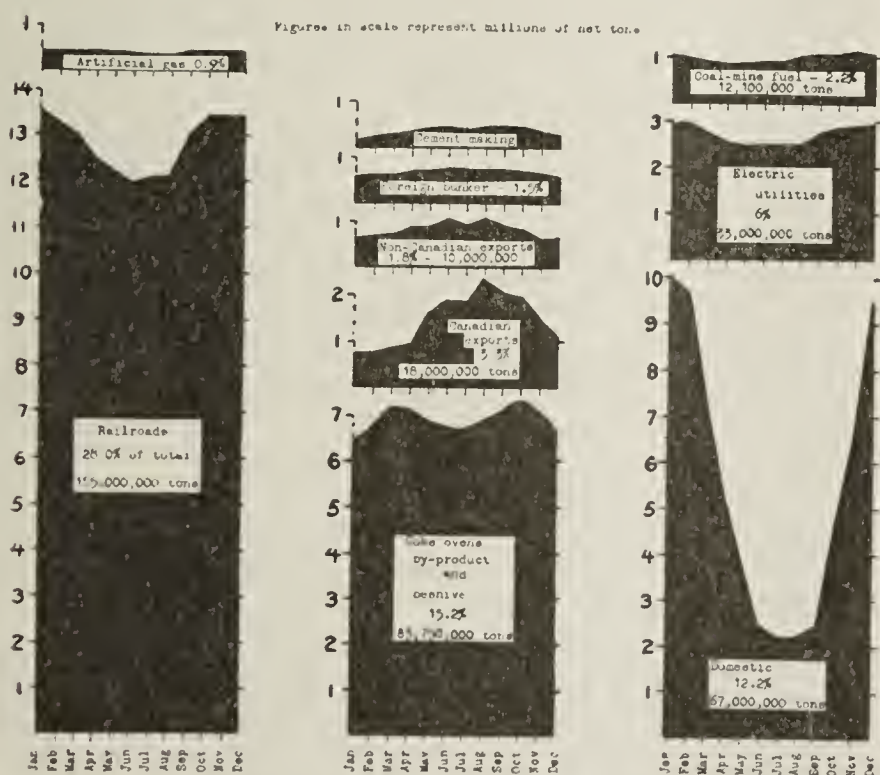


Fig. 4. Some Typical Curves of Monthly Bituminous Consumption.

A complete analysis of the effects of the irregular operation of the coal mines would include references to the coal dealers, both wholesale and retail, but the consumer is, of

course, the one whose purse suffers most, for in the long run he pays for all the wasteful practices. He must support

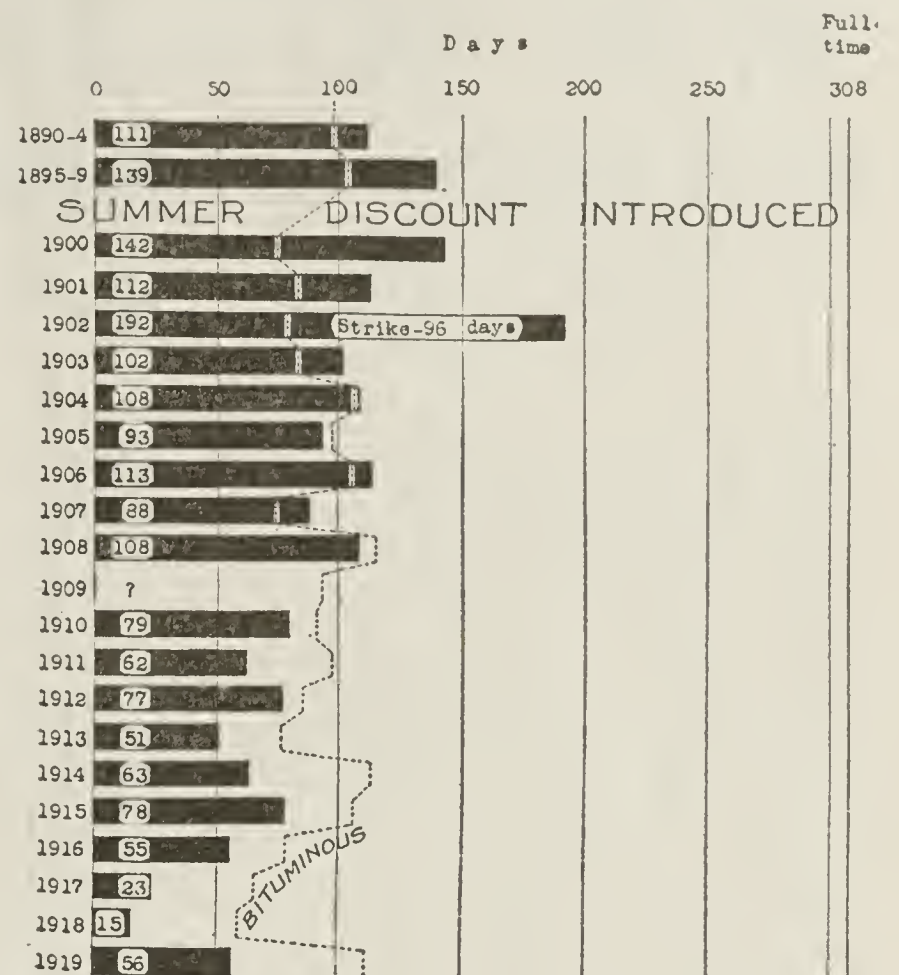


Fig. 5. Days Lost in Anthracite Mining Before and After the Introduction of Summer Discounts.

the miner for not only the 215 days that coal is coming from the mines, but also for the 93 possible working days when the mines are closed.

SUMMER BUYING WOULD AID CONDITIONS

An attempt to study the degree to which different consumers affect the seasonal market yielded the group of consumption curves given in Fig. 4; the values in this diagram are only tentative and are subject to sweeping revisions. The seasonal fluctuation in locomotive consumption is seen to be a factor, for the railroads consume 28 per cent. of all soft coal mined. An even larger offender in degree is the domestic consumer, altho the amount involved is much smaller. The general industrial user doubtless ranks next as a contributor to the seasonal fluctuations, but the public utilities present a much more even curve, and the curve for the iron industry is somewhat the same. Fortunately, certain other industries, export and bunker trade and the lake shipments tend to smooth out the seasonal curve.

The problem of improving the load factor for the coal mines thus becomes a problem of encouraging the summer buying of coal. Two methods of solving this problem have been suggested—seasonal discounts of the coal price and seasonable freight rates. Fig. 5 presents a comparison of lost time in the anthracite and bituminous mines since the summer discount was introduced for anthracite. It will be noticed that the present advantage of the anthracite mines did not immediately follow the new system—the consumer has to be educated even to serve his own interests. A seasonal discount in freight rate seems wholly justified by the railroad's interest in its own load factor; it, too, can afford to bid for summer traffic in preference to the more expensive winter haul.

The general interest of our whole nation in bettering the load factor of the soft coal industry is large. Society cannot view with equanimity the spectacle of an excess mine capacity of 150,000,000 to 200,000,000 tons, and an excess labor force of perhaps 150,000 men.

NEW STATE CERAMIC BUILDING *in* NEW JERSEY ASSURED

Governor Signs Bill Appropriating \$100,000 for the Structure

THE QUESTION of any doubt has passed. New Jersey is to have a new building for its ceramic department at Rutgers College, New Brunswick. This is now an assured fact thru the signing of a bill by Governor Edwards on March 25, providing an appropriation of \$100,000 for this purpose. It is not only a big achievement for the ceramic industry in this state, but stands forth as a decided recognition of the importance of this branch of activity thruout the country, for if facts to substantiate this had not been evident, the measure would not have been approved by Legislature and Governor in a time, such as today, when unusual demands are being made on state funds.

The committee in charge of this project has worked hard and faithfully; not an opportunity has been lost to forward the movement, and the successful outcome is a red letter day of no mean proportions for these ceramic enthusiasts. Frequent mention has been made of the proposed new school and current operations in its behalf in recent issues of *Brick and Clay Record*, all showing the firm determination of those interested to make this the final grand effort for the big idea. A particular word of mention is due those who have led in the work, for these men have spared neither time nor effort to be "on the job" whenever needed.

Senator Thomas Brown, Perth Amboy, N. J., is entitled to no small measure of praise. Inspired by the leading ceramic men of the state with the great need for the proposed building, he has literally become a ceramic man himself thru intimacy and knowledge acquired of the industry. Early in February he introduced the bill (Senate Bill No. 17) covering the appropriation for the project, making an able address before the senatorial body in urging its approval. The bill was passed by a vote of 19 to 0 in the Senate Chamber; a few weeks later it received like unanimous approval of the Assembly, and thence was brought before the Governor. His opinion in the matter is shown by his official decision.

Charles A. Bloomfield, Metuchen, N. J., head of the Bloomfield Clay Co., and well-known in ceramic circles thruout the country, may well be called the "father of the school"; it was thru his untiring efforts that the present school was established in connection with Rutgers College at New Brunswick. This was a start; the building was not commensurate with the importance of the industry, nor were the facilities provided, and he knew it. But there had to be a beginning, and from this beginning a mighty institution now looms in view. Mr. Bloomfield has never lost an opportunity to express himself as to what the state really needed in this line, and at every meeting of the New Jersey Clay Workers' Association within past years he has taken occasion to urge action, and real action for a new building. To see the successful outcome of his effort shows what determination, work and enthusiasm can accomplish.

Abel Hansen, head of the Fords Porcelain Works, Perth Amboy, has furthered the movement at every turn. His growing business was placed in the background whenever he was needed in connection with the enterprise, and with

his dominating position in the industry in the state, he has brought his prestige and influence to bear at every turn. As president of the New Jersey Clay Workers' Association and Eastern Section of the American Ceramic Society, he, naturally, was selected to head the Ceramic Building Committee formed from this body to carry out the details of the work, and that he has filled this position to a real, responsive purpose, is evidenced by the result.

Professor George H. Brown, director, Department of Ceramics, Rutgers College, has been decidedly active and energetic in the new building movement. He has carried out the various details of the promotion work in an able manner, and has kept in close touch with the progress as the enterprise matured. Certainly high credit is due to him in the fostering of the project—the new school will stand as an additional tribute to his ability.

PLANS UNDER WAY

No time will be lost in placing actual construction work under way. Plans for the new school have been prepared, and these will now be perfected and completed to embody every necessary detail of a first class ceramic institution for instruction and research work. The structure, as designed, will be two-story; it is expected to utilize burned clay products only in the erection of the building, and these to a large extent will be of New Jersey origin and manufacture. The school will demonstrate in a forceful way the broad utility and possibilities of burned clay building specialties—it will be a real, visible example of fire-proof construction of this type. Fine class-room, study and laboratory facilities will be provided, and the clay-working machinery and apparatus to be installed will be of modern, approved character.

The new ceramic building in New Jersey will rank high with any similar institution of the country—it will be a pride to the state and a credit to the clay-working industry. With such a building as projected, it is expected that students far in excess of present numbers will engage in the courses of study, while manufacturers of burned clay products will come to see, more and more, the advantage of utilizing the facilities of the research and experimental station to be provided. Here will be a fully equipped place to solve many problems of the day.

To assure the right upkeep and operations at the new school, the appropriation bill provides for an annual fund of \$12,000 for salaries, supplies and other expenses.

IMPORTANCE OF THE INDUSTRY

In impressing members of the State Legislature and others interested in the movement for the new ceramic building, Professor Brown compiled some pertinent data regarding the industry for distribution in these quarters, and facts as presented give some illuminating information regarding the great importance of the ceramic industry. There is no denying what these comments show—the clay-working trades have assumed a status in this country that some of us, engrossed in our own particular branch of work, do not appreciate.

The primary ceramic products, and to be included under such classification, are:

Clays of all kinds
Common brick
Face brick
Hollow brick
Enamel brick
Paving brick
Fire brick
Silica brick
Magnesite brick
Carborundum brick
Fire-proofing
Sewer pipe
Drain tile
Roofing tile
Glass pots
Gas retorts
Terra cotta
Chemical stoneware
General stoneware
Art pottery
Art tile
Porcelains

Electrical porcelain
Sanitary wares
Wall tile
Floor tile
Spark plugs
Emery wheels
Carborundum wheels
Enamels for cast iron
Enamels for sheet steel
Table glassware
Window glass
Plate glass
Electrical glassware
Optical glass
Chemical glassware
Art glass
Fused silica
Ceramic colors
Portland cement
Special cements
Chinas
Chemical porcelain

VALUE OF PRODUCTS

In statistics compiled by the Government (1914) ceramic products rank second in value as compared with mineral products, with valuation of \$447,000,000. This production is exceeded only by soft coal, with value of \$493,000,000. Following ceramic products come iron ores (\$299,000,000); petroleum (\$214,000,000); hard coal (\$188,000,000); copper (\$153,000,000); gold (\$94,000,000) and silver (\$40,000,000).

With regard to manufactured products, ceramic goods rank fourth, with valuation of \$447,000,000, as stated. The larger valuations are (1) cotton goods, \$701,000,000; (2) men's clothing, \$584,000,000; and (3) chemical industries, \$548,000,000.

The ceramic industries of New Jersey rank second in importance to those of other states of the Union—the state of Ohio coming first. The clay deposits in New Jersey are the most important on the Atlantic seaboard, and the state has the finest deposits of plastic clays in the country.

EXTENT OF CLAY INDUSTRY IN NEW JERSEY

The Bureau of Industrial Statistics, Department of Labor, New Jersey, has compiled some interesting figures indicating the extensive activity in the ceramic field in the state, these being for 1917. And, in certain directions, there has been noticeable increase since this time.

It is set forth that there are plants of the following character, with extent of production as indicated:

POTTERIES, 56; capital invested, \$13,577,633; value of annual production, \$12,948,702; total employees, 6,225.

BRICK AND TERRA COTTA, 68 plants; capital invested, \$24,495,287; value of annual production, \$15,501,229; total employees, 5,515.

GLASS PLANTS, 42; capital invested, \$10,057,375; value of annual production, \$11,021,834; total employees, 3,025.

TILE PLANTS, 11; capital invested, \$1,274,147; value of annual production, \$1,261,150; total employees, 900.

LIME AND CEMENT PLANTS, 11; capital invested, \$12,038,834; value of annual production, \$4,521,529; total employees, 1,040.

CLAY MINES, 39; capital invested, \$1,035,703; value of annual production, \$790,796; total employees, 1,000.

These totals show 227 ceramic plants of the character noted, with aggregate invested capital of \$62,478,979; total value of annual production, \$46,045,240; and 17,705 employees in all establishments. Taking present-day figures, it is estimated that the capital invested is now over \$65,000,000, and value of annual production considerably in excess of the amount stated.

LOCAL ADVANCEMENTS IN THE CERAMIC LINE

Like other clay producing states of the union, New Jersey has made notable advancement in certain directions during recent years, brought about, thru a large extent, by the demands of the Government during the war and the closing of the sources of foreign clay importations.

A local clay is now being used in place of 90 per cent. of the clay formerly imported from Germany for the manufacture of pencil leads. The bulk of pyrometer tubes used in the country, and which were previously imported from Germany, are being manufactured in this state. Textile porcelain specialties, heretofore imported exclusively, are now being produced at Trenton, and a new plant for this line of manufacture is being erected in that city. Other articles formerly secured from abroad and now being manufactured in New Jersey include high-grade chemical glassware; spark plugs; porcelain ball mills and porcelain linings for ball mills; and various other porcelain specialties.

THE COUNTRY'S CERAMIC SCHOOLS

In passing, it is interesting to note that there are but four recognized ceramic schools in the United States. These include the institution at the Ohio State University, Columbus; at the University of Illinois, Urbana; at Rutgers College, New Brunswick, N. J.; and at Alfred University, Alfred, N. Y. All of these are supported by state funds.

The Ceramic Department at Rutgers College, New Brunswick, was founded in 1902, with a very small initial appropriation, totaling about \$12,000. This fund was used for the erection of an addition to an existing building and providing necessary operating equipment and facilities.

Confronted with these figures showing the importance of the ceramic industry in the country and in the state, and with features of school comparison indicating that New Jersey was far behind in the line of facilities for proper and adequate technical work, who can say but that the new school and research building is nothing short of an absolute necessity? Ceramic men of the state have known it for time past, and now that a new institution is a certainty, New Jersey is destined for big forward strides in the industry. And there is nothing that is going to stop this progress in the interests of the clay-working industry.

* * *

"Don'ts" for Laying Tile

A. W. Turner, agricultural engineer of the extension department of Iowa State College, gives out this list of "don'ts" for the farmer who is planning to put tile on the land this spring:

1. Don't let "anyone" lay your tile. Tile go deep in the ground and are covered up, so place the work in the hands of a competent person and be assured that the tile are right.

2. Don't lay any but sound tile. Test each tile by striking it with a piece of metal, and if it gives a clear sound it is O. K. Cracked or cull tile may fail at any time, and it only takes one failed tile to ruin the line.

3. Don't use tile that are too small. It costs no more to lay a 4 inch tile than a 3 inch tile, and in addition the 4 inch will carry 78 per cent. more water than the other.

4. Don't lay tile too near the surface. Place them down between three and four feet; they are then not much affected by frost, and will draw from a large area.

5. Don't make any more curves or bends than are necessary, and avoid short branches.

6. Don't forget that the man above you can turn his water on your land, and you have to take care of it. Be sure you consider his grade and watershed.

NEW YORK STATE ROAD WORK BIDDING AGAINST BRICK MAKERS *for* UNSKILLED LABOR

ANCHOR MEN in the building trades are beginning to abandon hope of averting a building material price stampede this year according to the Dow Service daily building reports of April 12.

There has been little practical response to the proposals that all special interests be submerged for the present so that the general building construction might take full advantage of the advancing building season. Wage adjustments, always upward and rescheduling of working hours, always downward, are proving to be too great for the manufacturer and distributor, general contractor and subcontractor, to continue to absorb. One by one the proponents of the cooperative plan to keep the building market open and free to all comers have withdrawn and some of the results of this turn of events will be felt in the portland cement, sand, grit, gravel and crushed stone departments when the market opens today. The ultimate summit of such a movement, once it gets headway, depends upon early relief in the increased freight car shortage, reaction in the cotton and bag markets, price reduction in wood barrel heads, staves and binders; correction of the Federal Excess Profits Tax law, legislation that will encourage rather than discourage building construction, reduction of the already excessive freight rates as applied to transportation of building material, the pacification of various factors of organized labor, increase in immigration and possibly the removal of tax on mortgages. When these major hindrances to a free building market are lifted the building material supply may be expected to approximate the demand. Then only will the upward trend of price stop. That halcyon day is beyond this year's horizon.

GLASS SUPPLY FAR BELOW CURRENT DEMAND

An important factor in shutting off prompt occupancy of various buildings now almost completed is that of common window glass. A conservative estimate of the value of buildings now practically completed but awaiting the installation of glass has been taxed at \$13,000,000 in this city (New York City) alone. There has been a strike among the glaziers since January 1st. The issues involved in this strike have nothing whatever to do with rates of wages or hours of labor. The contention centers principally on whether or not the distributors in this market will recognize outside organizers. The matter has been carried into the courts and an injunction has been granted restraining any conspiracy toward the damage of glass set up by independent interests. The supply of window and plate glass is far below the current demand, and discounts on recognized lists are purely nominal.

Conferences have been held between the operating forces and the manufacturers of glass at mill centers but the year's program had not been announced up to April 10th noon. The chances are, however, that the manufacturing season will be extended two or three weeks, possibly a month, from now until May 13th. The production of glass has increased greatly but is still far short of the demand. None of the manufacturers are accepting any new business for the next few months. This policy has been adopted in order to complete old orders. Fuel shortage, labor troubles and traffic conditions have made it impossible to keep up with demands, and new business will not be accepted until next fall and all the old orders are caught up. Some of the factories have installed new machinery which will increase production but not sufficient to offset the great and constantly increasing demand. There will probably be a great scarcity of glass between now and October especially window glass. The de-

mand for heavy cylinder and heavy plate glass greatly exceeds the supply.

Price changes this week include a 20 cent advance over the recent ten cent advance on the price of portland cement. An adjustment in the price of crushed stone, sand, gravel and grit compensates for the increased cost of handling same by reason of the demands of truckmen. Portland cement manufacturers are quoting on the new price base on fifteen day delivery only, with no future contracts. Some are quoting on 25 cent bag rebates, which is ten cents more than has been prevailing in this market; some not quoting at all, and it is frequently reported that some companies will not accept any business as they are oversold. The general plan is to catch up with existing orders before taking on new business in justice to old customers. Dealers are not quoting on new business. The structural steel interests report that they expect to have 100 per cent. of their jobs in the open shop classification at the end of this month.

OPTIMISM PREVAILS IN BRICK MARKET

Common brick is being absorbed at \$25 a thousand wholesale, with the usual additional charges for handling, cartage, and 15 per cent. about as fast as it comes into the market. The week's record was 22 barges arrived, and twenty-two barges were distributed. Lime and plaster are in a close market with supplies uncertain and fast running low on dealers' hands. A distinguishing feature of the brick manufacturing situation is the fact that State road work is actively bidding against brick manufacturers for the available supply of unskilled labor. This will probably result in much higher costs in the manufacture of brick. It was reported from the Hudson district this week that brick-barge leaders at various manufacturing plants up the river are being paid five times what they were four years ago. In spite of all these obstacles there is a certain amount of persistent optimism in the market and the volume of prospective work continues to come forth in increasing volume.

The week will open with new prices on sand, grit, gravel and crushed stone as follows: Sand, per cubic yard, delivered in Manhattan, Bronx, Brooklyn and Queens boroughs, \$2.50 a yard. Grit, gravel and crushed stone will sell at \$3.50 a cubic yard in all four boroughs mentioned. Coverage is to June 30 only, at which time the former price ruled on previous contracts which will, of course, be carried out. The foregoing prices apply only to new business.

One significant feature of the close of last week's business was the declaration of the building material dealers that they would defy the mandate of the union truck drivers to unionize the building material yards. They have formally decided to fight to maintain their independence. A similar attempt to unionize Eastern New Jersey building material yards failed.

* * *

Ten Commandments for Canadian Trade

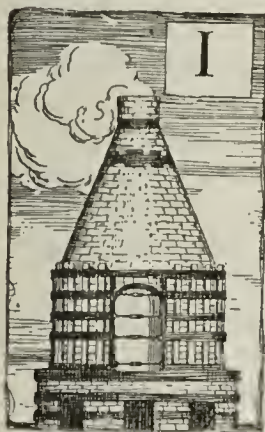
Toronto correspondence in the London "Times Trade Supplement" states that the Canadian Reconstruction Association, which has long been actively associated with the "Made in Canada" campaign, has formulated the following "Ten Commandments for Canadian Trade": (1) Buy Canadian products; (2) Import only necessities; (3) Produce to the limit in field and factory; (4) Cooperate, conserve, specialize, standardize; (5) Develop export markets; (6) Utilize Canadian services; (7) Manufacture raw materials to final stages in Canada; (8) Use science for the determination and development of natural resources; (9) Make quality the hall mark of Canadian products; (10) Be fair to capital.

FINE CERAMIC MANUFACTURE



A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products Such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

COMMERCIAL POTTERY OF JAPAN



IT IS CHARACTERISTIC of Japanese ceramics that the numerous varieties have always been distinguished from one another geographically rather than technically. Thus Satsuma ware, Imari ware, Awata ware, etc., names well known to foreign connoisseurs, refer to the districts in which the pottery is made. Indeed, the common Japanese word for pottery, "Seto-mona," is derived from the town of Seto, in Aichi-Ken, most famous of all for its wares, much as our English word "China," is reminiscent of the country where the product originated.

Japanese wares may be classed roughly in three groups:

1. Stoneware, including tiles and various utility objects, usually glazed and ornamented only by stamping or scoring, made in many parts of Japan and chiefly consumed locally.

2. Faience, such as Satsuma and Awata ware, most often with a crackle glaze, and highly decorated. It is not fired at so high a temperature as porcelain and is consequently softer and more fragile; but, for the same reason, more delicate colors may be used in decoration. Much of this sort of ware has found its way abroad under the designation of "curios."

3. Hard porcelain and semiporcelain (Kutani among the coarser wares and Seto, Imari, and Kiyo midzu among the finer).

The procelain of Japan is made in a different way from that of China. Having been fashioned, it is baked in a biscuit state, then painted with such colors as require a great heat and the glaze applied, then burned again at a much higher temperature; any further decoration in enamel colors or gilding is subsequently fired in a muffle kiln. These numerous firings are less tenacious than those used in China, hence Japanese specimens are frequently slightly out of shape.

PRODUCTION AND EXPORT

The value of the earthenware and porcelain produced in all Japan for the year 1918 was 44,214,084 yen (approximately \$22,107,000). The relative production of different classes of potteries for 1917 was as follows: Ornaments and art objects, 18 per cent.; dishes, 56 per cent.; industrial goods, 10 per cent.; toys, 5 per cent.; miscellaneous, 11 per cent. The following statistics show the production of pottery in Japan for the years 1909 to 1918, inclusive, yen having been converted to dollars at the rate of \$0.50 to 1 yen:

1909	\$ 6,178,838	1914	\$ 7,828,428
1910	6,634,997	1915	8,766,124
1911	7,447,801	1916	12,610,174
1912	8,272,772	1917	14,669,216
1913	8,838,417	1918	22,107,042

A glance at the export statistics will show that whereas in the first half of the decade from 1909 to 1918 the export of pottery from Japan kept about the same figure, yet from the beginning of the war the annual export steadily increased until the amount for 1918 had grown to four times the figure for 1914. Before the war the United States took nearly half of Japan's production, but in 1918 this proportion had shrunk to less than one-fourth. At that, America is still one of Japan's best customers. Almost two-thirds of the total imports of decorated china, Parian, porcelain, and bisque into the United States come from Japan. The United Kingdom, however, supplies the preponderance of decorated earthenware and crockery imports.

In the following table are given the total values of exports of pottery from Japan for the years 1909 to 1918, inclusive, together with the values of such goods destined to the United States:

Year	Total Export	Export to United States	Year	Total Export	Export to United States
1909	\$2,628,416	\$1,448,636	1914	\$2,955,884	\$1,572,374
1910	2,756,961	1,391,036	1915	3,476,476	1,455,072
1911	2,732,799	1,368,383	1916	6,051,996	1,095,694
1912	2,725,799	1,293,170	1917	7,238,967	2,470,395
1913	3,348,668	1,564,350	1918	9,976,896	2,229,467

The following classes of porcelain and semiporcelain products, which are produced in quantity, enter largely into the export trade, for which they are mainly manufactured: Tableware, including all the pieces comprised in ordinary dinner sets; sanitary ware, such as washbowls and other bathroom fixtures; electrical porcelain, such as insulators, sockets, etc.; and toys and novelties.

MATERIALS USED IN PRODUCTION—METHOD OF PREPARING KAOLIN

The earths used in the manufacture of commercial pottery may be divided into two general groups, technically known as kaolin and clay, the former being decomposed feldspathic matter contained in granite rock, and the latter being an alluvial deposit. Chemically they are similar, but physically they have different characteristics. In Japan is found a third variety, known as "rock clay" or "porcelain stone." This appears to be of similar construction to the kaolin, but decomposition has not gone to the extent of complete disintegration of the rock.

Kaolin for the potter's use is mined and washed in the same general manner in different parts of Japan. It is found in deposits in the high hills surrounding the town of Yamaguchi and is mined by tunneling. The kaolin is loaded on small cars within the mine and run either to a dump at the mouth of the tunnel or directly to washing machines located in buildings a few hundred yards distant. The kaolin is dumped on a platform and from there shoveled into a horizontal washing machine which consists of a barrel-shaped tub filled with water, about 12 feet long and 6 feet in diameter. Within this barrel is a revolving horizontal shaft to which arms are attached for the purpose of breaking up the mass.

The crude material as it comes from the mill consists of certain percentages of kaolin, quartz sand, and mica suspended in water. The particles are separated during the mixing process, and as they are discharged from the mixer the quartz, being heavier than the kaolin, is deposited in a vat or tank. The remaining kaolin and mica is then run thru long troughs, which are divided into branches in order sufficiently to retard the flow of the mixture to permit the mica, which is lighter than the kaolin, to float off upon the surface of the water. The kaolin mixture is then run into large vats or tanks made of cement. The kaolin remains in suspension for a considerable time, but when sufficiently settled the surface water is drawn from the tanks and the residue pumped by hydraulic pumps into iron filter presses. As it leaves the presses the kaolin has the form of large circular cakes, similar in appearance to putty, which are placed on boards in open-air drying sheds, or, in good weather, laid on racks exposed to the sun. When thoroly dry these cakes are ready for market. The present laid-down cost of this material at the factory is \$18 per ton. In the Yamaguchi districts the percentage of waste is extremely great, the actual amount of usable kaolin being only 16 per cent. of the entire mass that comes from the mine.

The sand washings from this mass are used to a limited extent in the steel mills and in the manufacture of fire brick, but the great bulk is thrown on dumps unutilized.

ANALYSES OF KAOLIN, CLAY AND PORCELAIN STONE

The following analyses give one an idea of the nature of the Japanese kaolins and clays.

Variety	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	CaO	MgO	K ₂ O	Na ₂ O	H ₂ O
Shiga-raki (Kyoto)	56.87	28.56	0.98	0.69	0.47	2.08	0.06	10.16
Owari (Seto)	54.65	32.35	.....	.90	.37	3.27	2.22	6.30
Hizen (Arita)	49.25	38.69	1.14	.15	.36	2.01	.39	5.90

Porcelain stone, which appears to be somewhat similar to the English Cornwall stone, is believed to be produced by the action of solfataras upon volcanic rock (breccia). Great deposits of it are found in the Arita district, just north of Nagasaki, similar to deposits which are found in Missouri. It is obtained from large quarries, and for local use is reduced chiefly by means of clumsy stamp mills run by water power, like those for milling rice. The material contains little or no mica; it consists of silicate of alumina in a physical condition between that of feldspar and kaolin, together with quartz sand, and is in itself capable of being made into chinaware without further admixture of other materials. Commercially, however, this is not practicable, because of the fact that the various percentages of ingredients are not uniform. It is also very susceptible to varying kiln temperatures, and has a limited range of fusibility.

The following table shows the analysis of various Japanese porcelain stones, as given by Rein, "Industries of Japan."

Kind of stone	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	CaO	K ₂ O	Na ₂ O	H ₂ O
Arita stone I	78.70	14.27	1.16	0.45	2.24	.....	3.29
Arita stone II	82.00	11.60	.70	.18	1.90	0.29	2.49
Amakusa stone	73.87	15.25	.73	.43	5.46	1.07	2.23
Kutanistone	76.60	14.75	.86	.29	3.91	.65	2.68

USE OF FELDSPAR AND ENGLISH KAOLIN

All Japanese chinawares are made of one or more of the kaolins described above, but it has been found that kaolin or china clay must be used to obtain the whitest and finest china. This is mined and prepared in Cornwall, England, and costs the Japanese manufacturers approximately \$40 per ton delivered. The wages of the men employed in the preparation of these materials at the present time are 60 cents per day of 12 hours.

Feldspar is found at the extreme northern and southern ends of the main island of Japan, but that from Fukushima is considered the best and gives the most satisfactory results.

¹The analyses of the Shiga and Owari clays are given by R. W. Atkinson in Vol. 8, pp. 274-275, Trans. Asiatic Soc. Jap.; that of the Arita clay is from Rein, Industries of Japan.

This is of excellent quality, and is delivered to the large pottery manufacturers in crude state.

Saggars are fire-clay receptacles into which the ware is placed for burning. They are made of a crude fire clay, the chief requirements being high refractory quality and great plasticity. The saggar clays of Japan are inferior to those found in America, the plasticity being below that required for the best results. As a consequence there is a much greater percentage of loss in firing; approximately 40 per cent. of the saggars break in each firing. It is necessary to add some other material to counteract the excessive contraction of this clay under fire. In Japan, as elsewhere, the old cracked saggars are utilized for this, being broken up and coarsely ground to the size of a small pea as the maximum.

COAL PRICES—PLASTER OF PARIS—OTHER MATERIALS

In the modern factories using the circular down-draft kilns a good quality of coal is required, which is difficult to secure in Japan. The coal used in the largest plant comes from Kyushu and costs the manufacturer laid down at his works in Nagoya approximately \$17 per ton (2,000 pounds), as compared with a price of \$4 in 1914.

Plaster of Paris is perhaps one of the most important of the materials used indirectly in the manufacture of chinaware, since the molds in which the ware is cast are composed entirely of it. This is manufactured locally, but its quality is such that for the best work imported material is used, which comes from America. Its cost (December, 1919) was 19.50 yen (about \$9.70) per barrel of 224 pounds.

The bulk of the decorating pigments and the finest colors come largely from England, formerly from Germany. The decalcomania sheets, which were formerly imported almost exclusively from Germany, are now coming principally from America. Some are being made in Japan, but it is likely that before long the domestic production will be displaced by the imported article. The costs are about three times the pre-war German price. Brushes are, of course, all of Japanese manufacture.

In the old-style Japanese potteries the glaze (called in Japanese "kusuri," a generic term for medicine) is compounded of carefully prepared clay paste mixed with wood ashes (usually oak and chestnut). The details of the mixture are usually held as trade secrets. In the modern factories the same sort of lead glaze is used as in Europe and America.

METHODS OF HOUSEHOLD PRODUCTION

The great bulk of chinaware produced in Japan is made by the old methods of manufacture and to a very considerable degree is a household or community industry. For example in the Seto district one family will be found making the models and molds. On the village streets one can see these molds being carried by hand on boards to another household where they will be used for the forming of the ware. Cups and saucers are produced in large quantities in this district, one man being able to produce by casting 2,000 cups per day; but the quality is very poor. When the ware is ready for burning it is taken to the kiln. All tableware undergoes two fires, the first being a low degree of heat known as the "biscuit fire," which thoroly dries and hardens the ware so that it can be handled with safety, and which also enables underglaze decorations to be applied. The ware that has gone thru the "biscuit fire" is dipped in a glaze which is practically a liquid glass composed of feldspar, lead, clay, flint, and, in some cases, a frit composed of borax and flint.

METHODS OF CONSTRUCTING AND FIRING OLD-STYLE KILNS

The old type of Japanese kiln is unique. They are built on the side of a hill in separate units, according to the re-

quirements of the individual or the community. In some cases there is but one kiln, and it is built at the bottom of the hill. As the factory enlarges, another unit is added to the side of the first kiln and at a higher level, according to the incline of the hill. As the kilns increase in number they also become of larger dimensions. The kiln resembles in shape the inside of the ordinary muffle or decorating kiln in the United States. The floor is usually covered with sand, and the firing is not begun until all the kilns have been filled with ware. The fire is started in the kiln at the bottom of the hill, the heat entering from fire boxes which extend the entire width of the kiln near the boundary between the two arches. Each kiln has a draft hole halfway up the side, above the hole where the fire is fed. The direct brunt of the heat is taken by a fire-brick wall. The flame and heat, circulating about the rounded roof of the kiln, pass into the kiln next above thru a series of openings on the level of the floor of that kiln. The heat passes from one kiln to the other, the surplus from one drying out and warming the contents in the following kiln. Wood is used entirely in firing the kilns and is delivered to the kiln burner in bundles, each stick being about the size of a man's wrist and about fifteen inches in length. The kilns are fed from either side thru a small hole less than one foot in diameter, the tender putting in a stick at a time, this being a continuous process. The steady demand for wood has stripped the adjacent countryside of forest, and the cost of fuel is very high. Four bundles of wood, altogether about three cubic feet, cost 1 yen (\$0.4985), four times the pre-war cost. The firing of each furnace costs about 500 yen (\$250).

The heat is intense, approximating a No. 16 cone. As each kiln acquires the desired heat the feeding is discontinued, and the firemen proceed to the next kiln above, which has already acquired sufficient heat to ignite the wood. By the time the third kiln is fired the first one has cooled sufficiently to permit the ware to be taken from it. These kilns are a crude form of the German Hoffman kiln.

As the ware is taken from the kilns it is ready for the market or for the decorating shop, as the owner may elect. Wares produced by community kilns are usually marketed thru merchants in the central village. In such a community we find potters of all degrees, from the individual making special articles and having them burned by the owner of the community kiln to the manufacturer who has his own shops and his own kiln or kilns.

MODERN POTTERY MANUFACTURE

The aggregate production of the numerous pottery villages in Japan amounts to a considerable figure, and much of it finds its way into the channels of foreign trade. Nevertheless, with the cost of living increasing in Japan by leaps and bounds and with labor costs rising in proportion, the day is not far distant when the highly organized and efficiently conducted modern pottery, with its labor-saving machinery and its ability to reduce costs by quantity production, will supersede the cottage and community system.

The Japanese have not been slow in appreciating this tendency. In Nagoya, the center of the industry in Japan, a modern pottery has been built on the most up-to-date lines. Upon entering a modern plant one is at first struck with the fact that labor is still by no means considered the first and greatest factor in costs. Every ton of material is brought to the factory by man power. There is no railroad siding. All the materials, bulky as they are in the pottery industry, such as clay, feldspar, flint, wood, and coal, are carted in small one-horse wagons, each horse being led by a man. Such materials as come in bulk are piled on the wagon in shallow traylike baskets, each containing an amount convenient for a man to carry. The second thing particularly noticeable is the large amount of hand labor employed in the breaking up and sorting of the raw materials, and also

the exceedingly minute care taken in removing any foreign matter from the broken mass.

Saggars, as explained above, are the fire-clay cases into which the ware is placed for burning. Setters are fire-clay disks, or very low saggars, capable of holding but one plate or dish. In the Nagoya factory the saggars and setters are made in saggar machines varying in size according to the size of the article required. These machines consist of steel dies which squeeze the clay into the desired shape, the pressure being applied by a screw press.

METHODS OF MANUFACTURE IN MODERN JAPANESE POTTERY

The same method used in other countries for the making or forming of the wares is in vogue in this factory, namely, pressing, casting, hollow-ware jigging, flatware jigging, throwing, and turning. The casting process is more largely used than that of pressing.

The ware, when ready for the first fire, is taken to the second floor and placed in the upper chamber of the kiln. It is then piled on tiers of bats supported by heavy clay props, as is usually done in the decorating kilns in America. The central part of the kiln is used for burning the saggars in their clay state, and they are piled up from the floor to the roof of the kilns.

The ware, as it comes from the first fire, is sufficiently burned to be entirely safe in handling, but can be easily broken between the thumb and finger. It is glazed in the ordinary way by dipping it in tubs of thin liquid glaze. The ware dries rapidly and is ready for the second fire after the bottoms and edges of the cups have been cleaned of glaze to prevent sticking.

The French methods of placing the ware are used. The plates, dishes, and flatware are placed in separate setters. All cups and bowls are put on rings, which are placed on the bottom of the saggar, and are not boxed as is customary in France. The plate setters are so evenly made that it is not necessary to fill in the edges with clay when fired. The fire of the glost kiln attains a heat equivalent to a No. 17 cone. These cones are made and supplied to the manufacturers by the Tokyo Kogyo Shikkenjo (Tokyo Industrial Laboratory). The drawing of the ware from the kiln is done with great care and rapidity, the unusual rapidity being induced by the fact that the man in charge is given a bonus for every hour saved.

SELECTING AND POLISHING—DECORATING AND PACKING

The warehouse work in connection with the plant under consideration differs in many respects from work of a similar kind in other parts of the world. Every piece of ware is carefully inspected and sorted and placed in four groups according to quality; namely, firsts, seconds, thirds, and job lots. About ten to fifteen per cent. are firsts, twenty-five per cent. seconds, and thirty-five to forty per cent. thirds. Only firsts are exported. About fifty or sixty persons, mostly girls, are employed in the polishing room. In addition to the American perpendicular power driven whirler for polishing the rims of such pieces as sugar bowls, teapots, etc., and lathes or horizontal wheels for buffing the edges of cups, small wheels mounted on flexible shafts such as are used by dentists, are employed for the polishing of imperfections otherwise difficult to reach.

The decorating processes are similar to those in use in America and other countries, including decalcomania transfer work, printing and filling in, hand painting, ground laying, hairbrush tinting, goldpaste work, gilding, and etching. The dinner ware is decorated largely by mechanical processes, but very large quantities of decorative ornamental wares are hand painted.

After the ware has been sorted and examined it is taken to the packing establishment. It is first wrapped in paper,

then taken to another room and packed with excelsior wrapping in cardboard boxes, each box being tied and labeled. It is then packed in large wooden cases and marked for shipment. These wooden packing cases, as well as the cardboard boxes, are made in the establishment.

COSTS AND SELLING PRICES

The costs of production for the years 1917 and 1918 are divided as follows:

Items	1917	1918
White Ware Costs	Per cent.	Per cent.
Materials	20.6	22.6
Coal	25.7	26.2
Wages	39.2	41.0
Overhead and expense	14.5	10.2
Decorating Costs	Per Cent.	Per Cent.
Gold	17.8	18.5
Colors and materials	11.0	8.2
Labor	38.5	41.4
Overhead	23.4	18.2
Fuel	9.3	13.7

During these years girls under 17 received 0.60 to 1.30 yen per day in wages; girls over 17 received 0.90 to 1.30 yen; men under 17 were paid 0.60 to 1.25 yen per day; and the wages of men over 17 were 1.20 to 2 yen. To these figures must be added a rice stipend granted to equalize the present high cost of living.

The following are some of the present selling prices of the Seto ware: Cups and saucers, Saxon shape, gold lined, 1.20 to 1.30 yen per dozen; red print ware overglazed, 1.30 yen per dozen; seconds, red print ware, overglazed, 0.95 yen per dozen; plates, blue and white, 5-inch, 0.60 yen; 6-inch, 0.95 yen; 7-inch, 1.40 yen; cups and saucers, 1.30 yen per dozen f. o. b. Nagoya; similar cups and saucers, firsts and seconds mixed, from Mino district, 1.05 yen. Selling prices advanced in 1919 to 80 per cent. above 1916 prices. The year 1920 will see an advance over 1919 prices of 35 to 50 per cent.

MANUFACTURE OF ELECTRICAL PORCELAIN

One of the newer developments in the pottery industry is the manufacture of electrical accessories in connection with the rapidly expanding electrical industry in Japan. The large high-tension insulators demanded by hydroelectric development are made both in large factories, such as the great Morimura plant at Nagoya, and also by small individual workshops (on subcontracts) in villages.

The large pole insulators are thrown on an ordinary wheel which usually is motor driven. When shaped they are passed to a second man who turns them to size with a tool. Finally they are carefully finished by hand before drying. They are glazed in the clay and fired once. One man carrying thru all the processes will throw, turn, and finish 400 insulators in a day, for which he gets about 1.70 yen (including a rice stipend).

Smaller white porcelain goods, insulators, cleats, rosettes, etc., are for the most part manufactured in Japan in the households alongside of dolls and teapots. They are molded in plaster of Paris molds, with a lavish expenditure of time and energy, from clay purchased ready for working, and are then fired in community kilns. With practically no overhead, such small manufacturers are able to compete successfully with modern factories. In fact, one large establishment which put in an insulator factory has been undercut in price by the small independent potters to such an extent that it has almost ceased to do business. Prices at the factory in October, 1919, for various items were as follows: Two-piece ceiling rosette, 2½-inch screw thread, 7½ to 8½ sen (3¾ to 4¼ cents); cleats, 1.4 sen (0.7 cents) a pair; solid knob No. 5, 1.20 to 1.30 yen (60 to 65 cents) per 100 (an advance of 60 per cent. over 1918); solid knob No. 3, 2.50 yen (\$1.25) per 100; split knobs, 1.60 yen (80 cents) per 100.

DOLLS AND TOYS

Dolls are made in nearly all the pottery centers of Japan along with other porcelain wares of every description. Few,

if any factories of any size devote themselves to the exclusive production of such goods. The world demand for toys during the war, due to the lack of German goods, has stimulated the production of Japanese toys. A large number of "Kewpie" dolls, in particular, are now made in Japan. One establishment in Seto devotes itself almost wholly to the manufacture of kewpies, with a production of 1,000 a day. The factory cost of a 6-inch doll of this sort is approximately 5 sen for the body and 5 sen for the decorating; total, 10 sen, or 5 cents gold. The adult workman averages 1.30 yen (65 cents) per day.—*Commerce Reports*.

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Much Activity in Trenton Potteries

Big activities are going forward at the potteries at Trenton, N. J., including plants of all kinds—general ware, sanitary ware and porcelain. The general ware potteries are sold out for months ahead, with practically few exceptions; the call from chinaware dealers continues at a high point, and some of the local plants are working exclusively on hotel ware. This latter branch of trade has made nothing short of tremendous demands upon Trenton potters, and orders are sufficient to insure maximum output for many months to come. The sanitary ware plants are getting the full benefits of the building activity now under way in different parts of the country, and goods of this nature of all kinds find a ready market. The electrical porcelain works continue production at the greatest possible output; there is no let-up in the call from the manufacturers and orders are now being taken for deliveries weeks and weeks ahead. In whole, the local pottery industry is thriving in a way that hardly seemed possible in the lean months now past, and there is every indication that "boom" times will continue.

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Installing Eleven Kilns at Hopewell Plant

The Hopewell China Co., Hopewell, Va., has been incorporated under Virginia laws, with capital of \$150,000 to manufacture porcelain tableware. As recently announced, this company, while in process of formation, acquired a portion of the former du Pont Chemical Co. plant in this district. Two buildings will be used for the new line of production, and it is proposed to remodel and equip these structures at once. Hopewell is near City Point, a port of water shipment, and this place will be used for the receipt of English ball clays to be used in manufacture, thus reducing the cost of transportation, thru elimination of rail service and rehandling of the material. The company's property embraces a five-acre tract, and the two buildings will provide a manufacturing area of about 50,000 sq. ft. Among the improvements planned are the installation of 11 kilns for initial operations, and this number will be increased at a later date to double such amount. It is planned to have the works ready for production early in June. The new company is headed by men connected with East Liverpool, Ohio, pottery interests, comprising Louis F. Grogelode, William R. Scraggs and Sol Ostrow.

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Large Pottery Merger Effected

Samuel A. Weller, operating the largest art pottery in the United States at Zanesville, Ohio, has purchased the plant of the Zanesville Art Pottery Co., which has been operating for many years under the management of David Schmid. This addition will give the Weller interests three pottery plants, all of which are to be devoted to the manufacture of art ware. A new corporation is to be formed, perhaps in June, by Mr. Weller, which will take over all of the Weller pottery interests. A considerable portion of the new

stock issue will be disposed of among the employes of the company. A general line of kitchen ware has been the product of the Zanesville Art Pottery Co.



Well Known Swedish Potter Dead

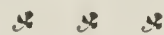
John Jeppson, for nearly half a century connected with the grinding wheel and pottery business in Worcester, Mass., and a former superintendent and one of the founders of the Norton Co. of that city, died in Havana, Cuba, on the night of March 26, aged 75 years. He had been ill about two weeks following an attack of acute indigestion.



Scarcity of Feldspar Felt at Trenton

There is a growing scarcity of feldspar in the Trenton, N. J., pottery district, and some of the plants are expressing not a little anxiety in this direction. Here will be a factor that will, indeed, go to retard production to a serious extent, and coupled with freight conditions and the labor situation, the outlook is not as encouraging as it might be. Local flint and spar mills are far "oversold," orders are being received in hundred ton lots daily, with little hopes of fulfilling these

requirements for some time to come. The shortage of freight cars is seriously handicapping these mills, which have their source of production in Maine, Connecticut, Canada and in the south.



Increasing Its Heating Capacity

The Bellevue (Iowa) Pottery Co. is installing an overhead steam coil system to increase its heating capacity for drying purposes. This expansion became necessary in order to meet the demand for the company's products.



The new addition at the plant of the National Porcelain Co., Southard Street, Trenton, N. J., manufacturer of electrical porcelain products, will cost about \$20,000. It will comprise a two-story factory and shed, 51x72 ft., to be used for increased operations.



Charles Howell Cook, president of the Cook Pottery Co., Prospect Street, Trenton, N. J., has returned recently from a winter sojourn in Florida. The Cook plant, specializing in the production of electrical porcelain products, is operating at capacity, and has numerous orders booked ahead.



CURRENT PRICES of COMMON BUILDING BRICK from SEVENTY-FIVE CITIES

INASMUCH AS considerable interest has been manifested recently in common brick prices thruout the country, it has been deemed wise to make a compilation of current quotations for the benefit of our readers. The prices which follow are reported as *delivered on the job*. They are, therefore, in the very nature of the case, higher than the plant price. This should be taken into consideration in examining them.

If for any reason these prices do not seem to be in line

with conditions as they exist in the towns enumerated, and furthermore, if you have any information that would tend to prove these prices to be incorrect the editors of *Brick and Clay Record* will be very glad to hear from you. These are, however, quotations which are being given at the present time by agencies selling brick in the towns mentioned.

The foot notes are explained at the end of the following tabulation:

COMMON BRICK	Per M		
Boston, Mass.	\$29.25	Trenton, N. J.	25.00
Providence, R. I.	32.00*	Wilmington, Del.	25.00
Hartford, Conn.	30.00*	Washington, D. C.	24.50
New Haven, Conn.	35.00	Baltimore, Md.	24.00
New York City	30.45	Richmond, Va.	25.00
Albany, N. Y.	25.00	Huntington, W. Va.	20.00
Utica, N. Y.	30.00	Fairmont, W. Va.	26.00
Syracuse, N. Y.	25.00	Wheeling, W. Va.	26.00
Oswego, N. Y.	30.00	Atlanta, Ga.	25.00
Binghamton, N. Y.	28.00	Tampa, Fla.	30.00
Elmira, N. Y.	35.00	Frankfort, Ky.	24.00
Rochester, N. Y.	19.50	Louisville, Ky.	20.00
Buffalo, N. Y.	30.00	Lexington, Ky.	22.50
Jamestown, N. Y.	33.00	Memphis, Tenn.	27.00
Allentown, Pa.	16.00	Nashville, Tenn.	19.50
Erie, Pa.	22.00	Birmingham, Ala.	25.00
Philadelphia, Pa.	25.00	New Orleans, La.	22.00
Pittsburgh, Pa.	20.00	El Paso, Tex.	19.00
Scranton, Pa.	28.00	Houston, Tex.	25.00*
Newark, N. J.	32.00	Dallas, Tex.	30.00
Paterson, N. J.	36.00	Topeka, Kans.	20.00
		Little Rock, Ark.	18.00
		Oklahoma City, Okla.	24.50
		Cincinnati, Ohio	21.00
		Cleveland, Ohio	25.00
		Columbus, Ohio	28.00†
		Evansville, Ind.	15.25
		Fort Wayne, Ind.	20.00
		Indianapolis, Ind.	22.00
		South Bend, Ind.	21.00
		Terra Haute, Ind.	19.00
		Bloomington, Ill.	22.00
		Chicago, Ill.	14.00
		Moline, Ill.	22.00
		Green Bay, Wis.	24.00
		Milwaukee, Wis.	15.50
		Minneapolis, Minn.	22.00‡
		St. Paul, Minn.	22.00
		Davenport, Iowa	23.50
		Des Moines, Iowa	30.50
		Sioux City, Iowa	18.00
		St. Louis, Mo.	20.00
		Lincoln, Neb.	20.00
		Denver, Colo.	18.00
		Butte, Mont.	16.00
		Los Angeles, Cal.	13.50
		San Diego, Cal.	18.50‡
		San Francisco, Cal.	17.50
		Portland, Ore.	20.00
		Seattle, Wash.	17.50
		Winnipeg, Man.	20.00
		Toronto, Ont.	18.00
		Halifax, N. S.	19.50
		Quebec, Que.	17.00

*Hartford, sold by mfrs. only; minimum price. Providence, price at yard, \$28 to \$35.

†Mfrs. price. Houston, another dealer quotes \$22.

‡Also quoted \$30 Columbus.

‡Also quoted \$18 at Minneapolis.

‡Carlot rate, San Diego.

Association Meetings of Particular Interest to Ceramic Men

With the coming of spring, a number of important association meetings have been arranged at New York and Atlantic City, of interest to manufacturers in the Ceramic industry. In fact, in the membership roster of these organizations will be found the names of many prominent in these lines of production.

The National Association of Manufacturers of the United States will hold its twenty-fifth annual convention at the Waldorf-Astoria Hotel, New York, on May 17, 18 and 19. Marking the silver jubilee of this organization, the forthcoming meeting will be of more than ordinary importance, and plans are being developed to make it a memorable occasion, not only from the standpoint of individual consideration, but of national and international scope. Many important topics will be up for discussion. Stephen C. Mason, president of the association, will make the opening address, and will preside.

The Manufacturers' Association of New Jersey will hold its annual convention at Atlantic City on April 30-May 1, with sessions at the Traymore Hotel. Many of the leading potters and other men in the ceramic business in this state are members of this association, and a fine attendance is looked for. A list of highly interesting subjects is up for consideration.

The Chamber of Commerce of the United States will hold its eighth annual convention at Atlantic City, on the dates immediately preceding the meeting noted, or April 27-29. Prominent business men in various parts of the country will gather on this occasion, and with so many vital matters to be discussed it is expected that the meetings will be of great profit and benefit to those assembled. Homer L. Ferguson, Newport News, Va., is president of the organization.



Move Common Brick Association Headquarters to Cleveland

Members of the Common Brick Manufacturers' Association of America will in the future send their mail addressed to their national headquarters, to 1300 Schofield Bldg., Cleveland, as a result of the recent removal of the secretary's office from the Conway Building, Chicago.

Owing to the enormous expansion of this association, the headquarters in Chicago became too small and it was necessary to find larger quarters. However, office space in Chicago is so scarce that it was impossible to secure suitable headquarters in that city, hence, this is one of the reasons for the removal to Cleveland.

The Board of Directors of the Common Brick Manufacturers' Association of America, at the time of the annual meeting held at Columbus, granted Secretary-Treasurer Ralph P. Stoddard, permission to make the change.

Unfortunately, the switchmen's strike has come at a very untimely period and Mr. Stoddard is experiencing considerable difficulty in getting his office furniture and records transferred to Cleveland.

The Common Brick Manufacturers' Association of America continues to grow and new members are coming in almost daily.



According to a statement issued by the Inter-Racial Council of New York, April 5, foreign war widows who are pensioners of their governments and other industrial non-producers, mostly women, constitute the larger part of the immigrants now coming to this country. Of total immigration over a period of several months, officials of New York port state that women and girls have formed not less than 60 per cent.

Establishes Hotel Information Bureau

The Chicago (Ill.) Association of Commerce is putting into operation a new department—The Hotel Information Bureau. This new bureau will function under the guidance of the Convention Bureau and will confine its efforts entirely to the solving of the problem of hotel accommodations both as related to advance bookings and present registrations. The establishment of this new department is made possible thru the splendid cooperation of the Hotel Association of Chicago.

George E. Wolf, who has been connected with Chicago hotels for a number of years and has had a long and practical experience in hotel bookings, will carry on the work of this new Hotel Information Bureau.

There has never been a time when Chicago hotels could not accommodate all visitors but the problem has been to fit the inquiring registrant into the available space. Under stress, during one or two of the large conventions, the Chicago Association of Commerce has operated a Hotel Information Bureau on a purely temporary basis. These experiments have proven the wisdom of the undertaking and now this Hotel Information Bureau will become a permanent department. The hotels will keep the Bureau advised as to available space. The merchant's opportunity is to forward all communications either for advance reservations or for present requirements to the Hotel Information Bureau, 10 South La Salle St.



3% Increase in Employment for March

The amount of employment in New York State factories again shows an upward movement after a small decrease in February. The preliminary analysis of 1,560 reports, received from manufacturers of the state by the Bureau of Statistics of the New York State Industrial Commission, shows an increase of 3 per cent. in the amount of employment for March over February. This can be compared with a one per cent. decrease in February, a one per cent. increase in January, and 3 per cent. increases both in December and November.

The increase in employment in March is due to a general revival of industry typical of the early spring and to the elimination of many of the causes which helped to produce a decrease in February. The improvement in transportation facilities due to better weather conditions in March kept the factories of the state supplied with a more continuous flow of raw materials and fuel and enabled them to increase their working forces. Some factories, however, still reported a shortage of coal and raw materials. Absences on account of sickness were also largely eliminated in March. In a large number of cases, however, the increases in volume of employment were due to improved business conditions as a result of seasonal demands. Some factors which hampered the increase in employment in March were the presence of strikes in some industries and the low exchange rates which affected those firms doing considerable export business.



The New York "Times" of April 4 states that coincident with the general revival of industry in Belgium came a great increase in membership of trade unions there. From 120,714 in 1914 membership has risen to 613,500, with Metal Workers' Union the strongest branch, its enrollment totaling 100,000.



The "Wall Street Journal" of April 10 states that the manufacturers of motor truck tires are experiencing a demand greatly in excess of present production. It states that more than 1,000,000 tons of goods were hauled by motor trucks in the United States last year.

The SUPERINTENDENT

Helpful Hints for Practical Men
Whose Problem is Maximum
Production With Minimum Cost

How to Accomplish More Work in Clay Hole

The use of shovels and spades plays so large a part in clayworking, that any means which will facilitate it or reduce the cost of shoveling is worth careful attention. There is only one way to obtain the necessary information, namely, to make careful measurements and observations under conditions which can be controlled and repeated.

For instance, it has been found that for shale and broken rock a man can work to the best advantage if he is shoveling the material into a car not more than 45 in. high, and is standing so that he does not have to throw the material more than 4 feet. The lower the car the better, and so far as shoveling is concerned, it is better to have the top of the car only 24 in. high, tho this will usually mean much larger cars than is generally convenient. Incidentally, where the men drop their shovels and push the filled cars on to an endless rope or other haulage system, it is economical to have the cars fitted with ball bearings, as these enable a man to push a heavier load and to move it more rapidly than when the ordinary bearings are used.

If the man has to throw the material more than 4 feet into the car, it involves a loss which increases very rapidly with comparatively small increases in the distance. Throwing the material into a high car is equally wasteful if a low car can be used.

In one case it was found that by carefully studying the details of the shoveling, it was possible to treble the output without the men being more fatigued, and the alternating periods of work and rest resulted in the men working a shorter number of hours, notwithstanding the greater output. Thus it was found better to allow the men to shovel their hardest for seven minutes, and then to rest for ten minutes; this gave a much higher output than when the men worked on steadily. In clay holes there are unavoidable stoppages of shoveling, as the cars are usually small, so that they are filled within the time required to tire the men. If the cars are in good order, with ball bearings, the men can push them on to the haulage gear during the time which would otherwise be well spent in resting.

Shoveling is a job which cannot be carried on continuously to advantage. If men try to work continuously at it—as when loading a large truck or filling a hole of great depth—they will not move so much material as another set of men who are more systematically organized, and who work short periods and then rest for short periods at regular intervals. This has been proved in so many instances that there is no room for doubt as to its efficacy.

The mistake usually made is to allow the men to select their own rate of working and to choose their resting periods, instead of investigating the matter properly and working systematically. By letting the men decide without any clock or guide, the periods become irregular, and either the amount of material moved is too low from laziness, or the work too long at a stretch and too short a rest period is taken, so that in the course of a few days the workmen become tired and slip back into producing a low output.

The shape and size of the shovel is much more important than is often supposed. It was established some years ago that the best results are obtained with a shovel which holds exactly 21 lbs. of material when used in the ordinary manner. A larger shovel is too heavy for prolonged work; a smaller one is wasteful, as too little material is lifted at a time. The edge of the shovel must be of such a shape and thickness that the material passes on to the shovel quite easily. A soft edge will bend too readily, and will be awkward to use. An edge which is at too steep an angle will not pass well into the material to be moved, especially when lifting it from the ground, while a perfectly flat blade will not balance well when loaded. It has been found in one clay hole that a greater output was obtained by providing shovels of different shapes according as the material was to be dug from a pile, or by inserting the shovel at ground level. For the former a scoop is preferable, but for the latter a flatter blade is needed in order to “clean up” the material properly in the forward sweep of the blade.

The blade should not be allowed to become unduly worn, or it will not be effective. If more than one inch has been worn from its length, the shovel should be set aside for a heavier material. Old, worn shovels with ragged edges are very wasteful, and it is far cheaper to sell or discard them. If the clay hole happens to contain much small rock as well as clay, shale or similar material, the worn shovels may be re-ground and used for the rock, as that is relatively heavier, and can better be moved with a smaller blade.

The relative length of blade and handle, the shape of the back strap which unites them, the curve of the lower part of the handle, and numerous other matters are all important in their effect on the output. It is also obvious that each man ought to have a shovel which suits him, and not to work with one which is more fitted for a bigger or small man. By taking care of such apparently small matters, by watching the men at work, and by teaching them the correct attitude in which to stand while working, it is easy to increase the amount of material moved without adding any additional burden to the men. On the contrary, the men will be less tired than if they work in an uninstructed manner.

It is important to avoid undue monotony in shoveling, as this proves more tiring than the muscular work performed. For this reason it is desirable to change the relative position of the men at fairly frequent intervals, and to give them more than one kind of work. For example, it is better to let the men fill small cars and then push these on to the haulage track, rather than to expect the men to load a series of cars without intermission. For the same reason, men will seldom work too rigidly to the clock, and some allowance must usually be made in the duration of the alternating periods of rest and work. It is easy to poke fun at any scheme for systematizing the work of the men in a clay hole or pit, but careful measurements have shown that most men do not know how to get the biggest output for a given amount of effort, and the majority of them are only too glad to be taught how to shovel properly, if the teaching is done under suitable conditions and by a man who really does know how to do the work.

The BUILDING SITUATION in the EAST

SPRING CONSTRUCTION work in different important eastern cities is going forward with a vim. The passing of the first quarter of the year and the rolling up of building totals far beyond the expectations of various municipalities has given impetus to the situation, and the coming months are expected to show a volume of work nothing short of startling. Conditions are substantially the same thruout the eastern district, including such cities as New York, Newark, Trenton, Philadelphia, Wilmington, Baltimore and Washington. The big demand is for homes and housing operations are receiving the bulk of attention; factory and industrial work, as important as it is, is given second place in the line of importance—houses and apartments must be erected, and that's the answer in a nutshell.

Despite the encouraging aspects in the sense of desire and determination to build, there are disturbing elements in the situation, and such as to cause no little anxiety on the part of brick manufacturers, material men, contractors and others

ter. Freight cars are growing to be luxuries, that's about the size of it, and burned clay plants are forced to stock material, regardless of the keen call from the building interests. Labor is not satisfied by any means, strike after strike is prevailing, and as soon as one is settled, another begins. What the ultimate outcome will be in this respect is simply a matter of guesswork, but with existing restlessness and exorbitant demands, the affect cannot be otherwise than detrimental. If the coming months show a lag in building operations, the big cause can be attributed to this end. Then, the prevailing prices of basic building commodities are not of the level to encourage speculative construction, and only work that is actually necessary can be anticipated while this situation exists. Concentrated effort on the part of the industry can accomplish much, and rightly applied here solutions to those important problems will be found.

WHAT THE CITIES ARE DOING—NEW YORK

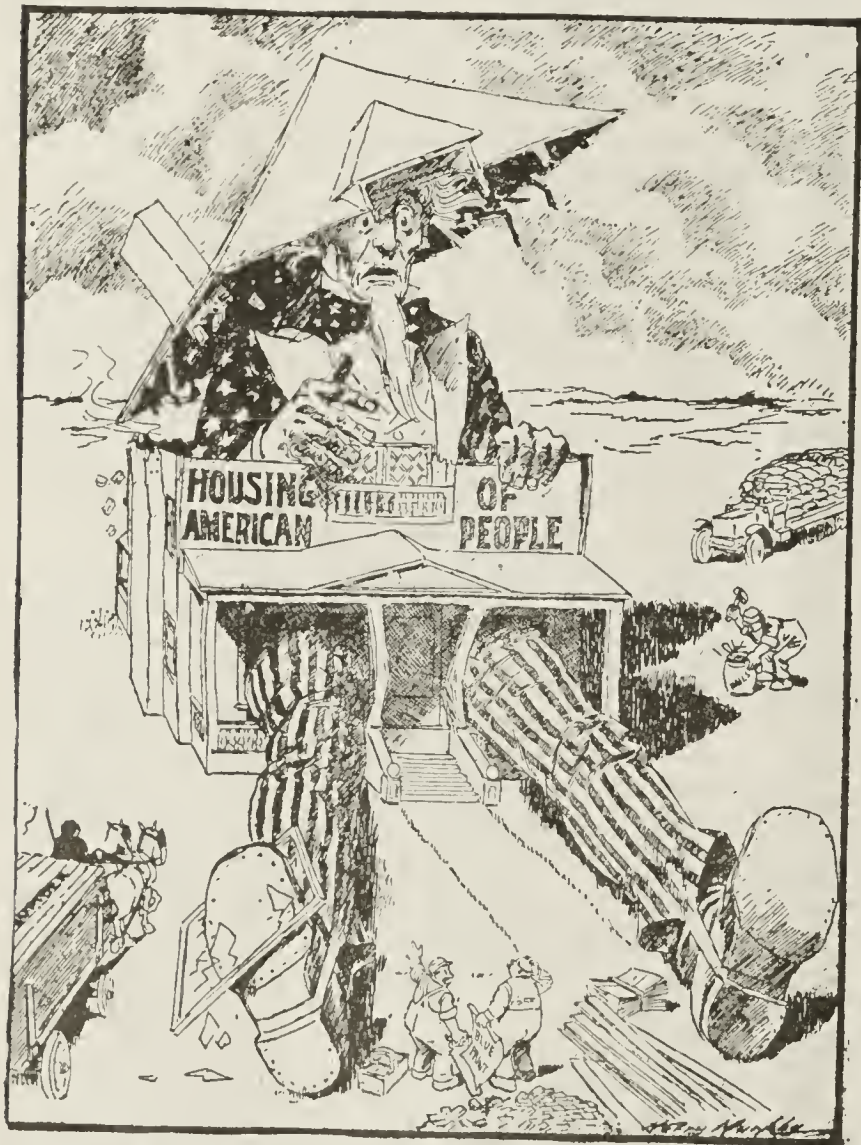
Following a strike of three months' duration, the bricklayers at New York picked up their trowels and went to work the first of April; during these 90 days construction work on no less than 300 incompleted buildings was held up. Mayor Hylan, appointed arbitrator in the controversy between the men and the employers, has handed down a decision in the matter, with official statement reading: "The request of the bricklayers is for an increase of wages to \$1.50 an hour for an 8 hour working day. The Mason Builders' Association offered the men \$1.12½ per hour. Taking all facts presented into consideration, my decision is that the bricklayers shall receive \$1.25 per hour for a working day of 8 hours for the balance of the calendar year of 1920."

Construction operations to the extent of over \$50,000,000 are now under way at New York, involving buildings of all kinds from the modest house to the towering office building. The work includes over 30 apartment houses, 50 office and store buildings, 20 warehouses, 10 factories, hotels, banks, theaters, hospitals and other structures. Two interesting projects that have developed during the past fortnight include a new local post office building, estimated to cost close to \$25,000,000, and a new twelve-story office building on Washington Street, to be erected by the Curb Holding Co., at a cost of \$1,750,000.

NEW JERSEY

At Newark construction operations continue apace. Of any city in this section, this community is taking a big lead in the line of building and literally "surprising itself." The first quarter of the year brings a startling realization of just what is being done. In this time, plans have been filed for projects to the amount of \$7,208,511; this breaks all records by a big margin, nothing like it has ever occurred before. The previous high total for this yearly quarter was in 1913, with figures standing at \$3,608,236. In 1919, the aggregate was \$964,405, so this year shows over a seven fold increase. The local industry certainly has reason to take pride. The second quarter of the year has started off most auspiciously, with totals for the first full week in April coming close to \$2,000,000. Brick is being used locally in very large quantities; some of the Newark yards are turning in excess of 1,000,000 a day, and there is no let-up in the call.

Active building holds in other important cities of the state.



The Unique Conception Herewith, by Harry Murphy, One of the Famous Artists of the Chicago "Herald and Examiner" Strikingly Illustrates the Construction Situation in America Today. It will Readily Occur to Everyone Who Takes One Squint at it, That Considering the Fact of His Being some \$2,000,000,000 Behind in Necessary Housing and Industrial Construction, Uncle Sam in the Person of His 110,000,000-Minded Family Should Lose no Time in Getting Busy. The Above Cartoon is Copyrighted by the Starr Company and Reproduced Here by Courtesy of the Chicago "Herald and Examiner."

in the trade. The growing shortage of building supplies is very noticeable, and the railroad situation, the big factor to be looked for in the line of relief, is not growing any bet-

In the suburbs of Newark, extensive work is going forward in the matter of new dwellings and apartment houses, particularly at East Orange and Montclair; minor labor controversies are prevailing in these districts. At Montclair, the plumbers are on strike for a \$9.00 day, being a \$2.00 advance over the prevailing wage; while at Summit, the electrical workers are demanding an \$8.00 day, instead of the present \$6.00 schedule. In the Raritan River section, many houses are being erected, while farther south at the shore resorts, the spring season is taking hold with noticeable increase in construction.

Trenton, N. J., is faced with a rather severe housing problem, and city officials are giving particular attention to the matter in an effort to develop plans that will make for the erection of a large number of new homes. The State House Commission has completed plans for the erection of a new wing at the east side of the capitol building to cost about \$350,000. Bricklayers and plasterers in this city have withdrawn their request to the Mason Builders' Association for a wage scale of \$1.25 an hour, instead of the prevailing schedule of \$1.00, and will bide by this latter wage for the time being. Many builders and contractors, however, are paying the advance price in order to make sure of securing men, so that the elimination of any expressed request may result automatically in the establishment of the increased schedule.

PHILADELPHIA

A good volume of construction work is going forward at Philadelphia. Brick homes are being erected in good number and yet the housing problem at hand is one of no mean scope. Efforts are being made to encourage more and more building in this direction. Under the auspices of the Department of Public Welfare, a movement is under way among those in all branches of the building industry for the development of a co-operative plan to finance and erect hundreds of houses during the present season. A committee of five has been appointed by Director Tustin of the Public Welfare Department to arrange for the formation of a housing corporation to carry out different features of the work.

The month of March just past proved to be the largest one in the building line ever enjoyed by this city. The building department issued permits for a total of 1,058 operations, with aggregate cost estimated at \$7,353,000. This is a 300 per cent. increase over the corresponding month of a year ago. The rather surprising part of the situation is the few plans being filed for new houses as compared with operations for factory and industrial development, as well as structures of other general type.

In connection with the plans of the Department of Public Works for street improvement during the present season, it is expected that large quantities of vitrified brick will be used for paving on different thoroughfares. A total of about 32 miles of streets is to be improved, while repair work will total close to 375 miles. The highway work is estimated to cost about \$3,400,000.

WILMINGTON

The spring is opening up in an encouraging way in this city and vicinity and local building interests look forward to a big year. It is estimated that there is a shortage of at least 1,500 homes in the city, and efforts are being made to encourage erection of housing structures. Local carpenters are out with a demand for \$1.25 an hour as against a prevailing rate of 80 cents an hour; a special committee of the Master Builders' Association appointed to consider the request recommend a \$1.00 an hour rate, and it is possible that a compromise may be effected along these lines. The Industrial Savings & Loan Association has arranged for the immediate erection of its proposed new building at Tenth and Shipley

Street to cost about \$300,000. The First Methodist Protestant Church, Seventh and Walnut Streets, has purchased a site on Twentieth Street and plans for the erection of a new church to cost about \$75,000.

BALTIMORE

That building is decidedly active in the Baltimore district is shown by the records of plans filed at the local building department during the past month. During this time new operations reached a total of \$3,772,380 as compared with \$1,004,000 for the corresponding month of last year. The work involved an aggregate of no less than 241 two-story brick dwellings, with estimated cost in excess of \$1,700,000; of these, 203 will be erected in the old city limits and 38 in the new annex. Other outstanding features of the record are the large number of garages and extensive activities in industrial work. Those in charge of this department of the city believe that this month is but a forerunner to far greater months during the spring, and a large volume of work looms in sight for April and May operations. Even with the extensive allotment of new homes, there is still a big demand for housing accommodations, and a Home & Housing Bureau has been established by the city to bring relief in this direction. Before the building season is over, it is expected that new homes will be numbered in well over four figures.

A record figure is being paid for bricklayers at Baltimore—\$12.00 a day, or on the basis of \$1.50 per hour. While this rate only applies to those employed by the municipal Highway Department at the present time and where the number, incidentally, is at a minimum, it looks like the opening for an increased wage scale for others in this line outside of the city employ. Laborers have also been increased in pay from 40 to 45 cents an hour, and foremen and others have received a corresponding increase.

To show the industrial advance at Baltimore, it is interesting to note that during the month of March, 10 new industries located in this city, while five of the present factories arranged for building expansion. This latter involved a total investment of \$1,857,000. To provide for homes for its employes, the Bethlehem Steel Co., with works at Sparrows Point, near Baltimore, has completed plans for the erection of 85 hollow tile houses, each two and one-half stories, about 21x28 ft.

WASHINGTON

At the Nation's Capitol building operations are concentrated on home construction; it is the big topic of the hour, and every effort is being made to bring about a sufficient number of dwellings to appease the demand. During the first week in April, the volume of work in this line developed to a total of \$523,649, covering a number of blocks of brick residences, as well as a number of individual operations. L. E. Breuninger & Sons will build fourteen dwellings on Webster Street to cost \$175,000; C. H. Small will erect seven homes on Allen Place to cost about \$70,000, while five dwellings will be constructed on Kenyon Street by Carl Smith to cost \$50,000. A project of more than passing interest is the proposed new building to be erected for the Chamber of Commerce of the United States on a local site; a national campaign is under way by the heads of this institution to obtain a fund of \$2,750,000 for this purpose, and Cass Gilbert, architect, New York, has developed preliminary plans for the structure. It will be a real business institution for the American business man, and regardless of any specific line of industry. Plans have been completed for a new embassy building to be located at Sixteenth Street and Park Road; the house will be erected by Mrs. J. B. Henderson and is estimated to cost about \$200,000. The Medical Society of the District of Columbia has arranged for the erection of a new hall on M Street, near Seventeenth Street, to cost about \$125,000; ground will be broken at once.

Brick and Burned Clay Markets

As to be expected, with the large volume of construction work now under way in eastern cities, there is a good, firm call for common brick and other burned clay products. Brick is about the most plentiful of the various standard clay materials, for the difficulties in transportation are making it very hard for many dealers to secure hollow tile, sewer pipe and other specialties from the producers.

The brick market at New York continues at sort of an even pace. There is no excessive call for material, as activity is just about beginning with the settlement of the bricklayers' strike. An attempt has been made to advance the wholesale price of common brick to \$30 a thousand, along-side dock, but finding no buyers, return was made to the \$25 level established some few months ago. During the first week in April, a total of 14 cargoes arrived from up-state points, showing that activity in shipping brick to the local market is again under way, after a rather severe winter. The big demand at the present time is from Manhattan Borough, and the bulk of distribution is concentrated here.

Common brick on the job is still selling for \$30.45 per thousand for first zone deliveries in the New York district. At Newark, N. J., the price is ranging around \$31 and \$32; at Paterson, N. J., dealers are now asking \$35 and \$36 per thousand—and, incidentally, are getting it. The price at Trenton, N. J., holds at around \$25, while at Philadelphia, the same figure obtains for deliveries on the job. At Wilmington, Del., the price has advanced to \$25, and this is the prevailing figure among the local dealers. Baltimore is finding the \$24 level about the right one, altho a number of dealers in this city are securing \$26 and as high as \$29 a thousand, delivered. At Washington, the price holds at \$22 and \$23 from the local producers. Dealers handling material from out of town are getting higher figures.

The firm call for partition tile in the different eastern cities is bringing about higher price levels. At New York, the material is selling from \$115 a thousand sq. ft. upwards; 2x12x12 in. is quoted by the dealers at \$115.80; 3x12x12 in. at \$185.30; 4x12x12 in. at \$208.40; and 5x12x12 in., \$280. These prices can be taken as a basis for the prevailing quotations in New Jersey, while at Philadelphia slightly lower figures prevail. The same hold true at Wilmington, Baltimore and Washington, altho the demand for partition tile in these sections gives an indication that higher levels can be anticipated.

With the Brick and Burned Clay Producers

Brick producers in the Hudson River district of New York are making ready for spring activities. Yards are being arranged for regular, and in many cases increased production. Continuance of the present fine weather will help to speed things in this direction. Even with intentions to make rapid advances in new manufacture, the pivot of the situation hinges on labor, and at the present time, good men are very hard to find. This was a distressing factor during the season past, and will likely be a hindrance in 1920. The unexpected, however, may happen, bringing about a return to more normal conditions. There is a good quantity of brick on hand at the various yards ready for shipment, and the shipments will be made according to the demands of the New York market. It costs more to bring barge loads down, and still more money when these have to be covered and held.

Things are looking bright in the brick producing centers in New Jersey. The Hackensack yards will soon be turning out green material ready for the kilns, and seasonal yards at Trenton have made ready for a good season's run. Production will be in accord with the demand, but as the prevailing call is so strong and with all likelihood of firm continuance, the output will unquestionably be at high status.

There is no indication as yet as to what the price will be for this season's run; that will depend on the market and the call, but it will likely be around the \$21.00 mark at the yard.

The Philadelphia Brick Co., Philadelphia, has disposed of a tract of property at Third and Luzerne Streets, totaling about 42 acres, to the Commercial Truck Co. of America, manufacturer of motor trucks with headquarters in this city. The new owner plans for the erection of a large plant on the site.

The Binghamton Brick Co., Binghamton, N. Y., is planning for general expansion in production, and has arranged for an increase in its capital from \$50,000 to \$150,000.

I. E. Gardner, Hackensack, N. J., is looking forward to a banner year at his local brick plant. "They are going to keep us working overtime this season," is the way he puts it, and indications certainly bear out this statement. Production will be inaugurated at an early date, and it is planned to develop a capacity output. This yard is now electrically operated, bringing a saving of about \$5.00 a day as compared with steam operation. A good stock of material is on hand at the present time, representing close to 300,000 brick, but orders on the books will absorb this amount at a very early date. This company produces a high grade common brick, which finds a ready market at Newark, Paterson, Passaic, and other North Jersey sections, as well as more distant points. This company operated two motor trucks during the past year, and will add to this fleet if necessary in the coming season.

The Glen-Gery Shale Brick Co., Wyomissing, Pa., with branch plant at Shoemakersville, is making improvements and extension in its yards to bring the capacity up to about 1,000,000 brick per week. It is expected to complete the work at an early date. Plans have been perfected for allowing employees to become stockholders in the company, with purpose to hold the working force intact and permit entire satisfaction among the operatives. The company's stock will not be sold, but each man will be credited with a \$100.00 share for a period of ten years, or to the grand total of \$1,000; each year will receive dividends on his stock, the first year on \$100, the second on \$200 and so on. If an employee receiving the shares should die within the ten-year period, the company will purchase such number of shares as he may hold, making a cash payment to the man's heirs. This latter feature is along the lines of insurance. A. A. Gery is president of the company.

In discussing conditions in the hollow tile trade, Tomkins Brothers, Newark, N. J., doing a large wholesale and export business in this and other mason materials, say that the majority of the manufacturers in this line have enough orders on hand to keep them busy for three or four months to come. New orders, as a rule, are subject to such a period of delay before shipment, without considering the car shortage question. It is pointed out that this branch of the burned clay business has been growing rapidly ever since its inception; that the material has filled such a want in the construction field that the demand has surpassed the supply.

The Alsen Cement Co. of America, 110 West Forty-second Street, New York, has been reorganized with an active capital of \$2,500,000, and plans for extensive operations in its direct line and with its various subsidiary organizations. One of this latter, the Marlboro Sand & Gravel Co., recently acquired the plants of the Atlas Building Material Co., manufacturer of common brick, with yards at Hudson, N. Y., and at Roseton, in this same vicinity. This company had a production capacity of about 30,000,000 brick per season, and plans are under way for operation of the plants.

The Universal Brick & Tile Co., Wilmington, Del., has been incorporated with a capital of \$500,000 to manufacture

brick, tile and other burned clay products. The local incorporators are M. A. Bruce, T. L. Croteau and S. E. Dill.

The Harbison-Walker Refractories Co., Pittsburgh, Pa., has issued its seventeenth annual report, covering the year ending December 31, 1919, and showing a surplus of \$12,750,509. It is pointed out that the profits of the company for the year were considerably lower than in recent years, owing to the close relation of the refractory brick industry to the steel business. With a reduction in the price of steel on January 1, 1919, a corresponding reduction was made in the rate on refractories, and again on April 1. Despite these reductions, wages held at the highest level thruout the twelve months' period.

The Solry Tile Mfg. Co., New York, manufacturer of ceramic tile, etc., has arranged for an increase in its capital from \$10,000 to \$200,000 for proposed expansion.

Everett Townsend, Trenton, N. J., well known in ceramic and civic circles thruout the state, has acquired a part interest in the Frontenac Wall & Floor Tile Co., Kingston, Canada. Mr. Townsend will act as general manager at the works and has left Trenton to take up his residence at the new location. He was connected in an official capacity with the Robertson Art Tile Co., Morrisville, Pa., near Trenton, for many years, serving in different capacities, and recently, up to the time of resigning from this company, as general manager in charge of production. He has been a member of the Executive Committee of the New Jersey Clay Workers' Association and Eastern Section of the American Ceramic Society for many years past. Upon the fact becoming known at Trenton that he was to leave the city, a remarkable tribute was paid, this taking the form of a gift of a handsome gold watch fob, presented by a committee representing about 1,500 citizens of the community. This fob carries the Masonic emblem on one side, and on the reverse side, the inscription "For Services Rendered to the City of Trenton." It was this same body of citizens that petitioned former Governor Edge to appoint Mr. Townsend a member of the State Public Utility Commission.

Andrew Ramsay, Mount Savage, Md., operating a local fire brick plant, is negotiating with the Maryland Coal Co., Baltimore, for the purchase of its plant at Lonaconing, designed for a similar line of manufacture. This plant was erected at a cost said to be in excess of \$500,000, and was used for

production until local clays used for fire brick could no longer be obtained, it is said, in desired quantities. Mr. Ramsay proposes to operate the works for the manufacture of common brick.

A project has been launched at Pennington Gap, Va., by the Young Men's Commercial Club, for the establishment of a brick manufacturing plant at this place. With the strong demand for this material it is believed that such a works would prove very profitable, and a company is being formed, with capital of \$30,000 for this purpose.

The West Brothers Brick Co., Washington, D. C., reports a very active call for common brick at the present time, and large shipments are being made from its plant near the Virginia line to the Washington district. The company is quoting prices of \$19.00 and \$20.00 for ordinary run of material and \$20.00 and \$21.00 for more desirable selections, including arch brick. All deliveries are made in the local sections by means of motor trucks, and an exceptionally fine fleet of cars is operated.

One of the prominent men in the burned clay products line at Washington, D. C., says that the industry at the present time is suffering thru lack of invested capital. It is said that necessary expansion during the past few years has not been forthcoming, with the result that now, when maximum production is required, plants do not find installed equipment sufficient for demands. It is said that these works cannot make up for lost time in a day or a month, but that it is likely to require many months, running into years, before the industry as a whole, and dealing specifically with the hollow tile business, will be able to keep abreast of the call for material from the building industry.

The Baltimore Brick Co., Baltimore, Md., will soon complete extensions and betterments at a number of its plants, and will have maximum production under way at an early date. The company produces common brick as well as face brick at its different works, and the run is of fine quality. Large quantities of the material are being used for a number of important local projects, and orders, as to be expected, are in excess of the supply. In this respect, however, the company is keeping pace with demand in a commendable way, and every effort is being made to hold this record. The company has sold a portion of its property to the Government in the vicinity of Camp Holabird, and which is to be used for the erection of additional shop buildings at this station.



Peak of Freight Car Shortage Passed

American Railroad Association's car service commission stated on April 3 that the peak of freight car shortage has been passed for the time being. Stated that on March 15 the average daily shortage was 80,000 cars, compared with daily average of 90,000 a few weeks before.



Denison Tile Corporation Expands

During the past six months the activities of the Denison Interlocking Tile Corporation have expanded to a marked degree, and as a result, two new branch offices have been opened. The first one has been opened at 509 Owen Bldg., Detroit, Mich., and is under the supervision of H. H. Potter, Jr., who was formally connected with the Clay Products Co., of Brazil, Ind. The territory covered from this office consists of the southern portion of the state of Michigan and the northwestern corner of the state of Ohio. Reports indicate that the developments from this office have been better than anticipated.

In the early part of this year a Chicago office was opened at 1303 Chamber of Commerce Bldg., and this branch is in charge of E. C. Gaertner, formerly of the Clay Products Co. of Chicago. The territory in charge of this branch office comprises the states of Minnesota, Wisconsin, Illinois, Indiana and the northern part of Michigan.



Present High Prices Inexcusable

Herbert N. Shenton, secretary of the Bituminous Coal Commission, in a statement issued April 10, said that present high prices of bituminous coal were inexcusable on any theory of supply and demand or on any economic principle. He said that neither the advice of the Commission to buy and store coal early, the requirements of the export trade, the status of car service, the daily output of the mines, the weather conditions, nor supposed shortage of supply explain in any manner the rise in prices which are out of all relation to the increase in the cost of production caused by higher wages granted by the Commission.

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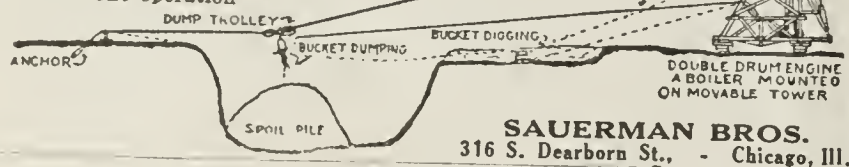
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Anchor Brand Colors**For Mortar Cement and Brick**

Brown, Black, Red and Buff

Strongest and most durable

Manufactured by

C. K. WILLIAMS & CO., EASTON, PA., U.S.A.

Correspondence solicited

They Do Produce Results

We refer to

Those little ads you have noticed in our Classi-
fied Ad Pages.It is the decision of concerns who have used
them. Try one.**Brick and Clay Record****Farm Interests Call Marker Away**

J. R. Marker, commissioner of the Ohio Paving Brick
Manufacturers' Association, left for his former home at
Versailles, Darke Co., recently to look after the operation
of a large farm he has in that section.

Amos Potts Now With Texas Concern

Amos P. Potts has recently been appointed plant manager
of the Seguin factory of the Fraser Brick Co., of Dallas,
Tex. Mr. Potts who is well known in the industry, took a
five years' course in ceramics at the Ohio State University
and during the latter half of his term was assistant professor
of one of the courses in ceramics.

Following two years of research work at the Ohio State
University and the Iowa State University of Ames, Mr. Potts
spent five years as ceramic engineer for the Mason City
(Iowa) Brick & Tile Co.

Plans Five Months' Trip to Germany

R. H. Minton, in charge of the plant of the General Cera-
mics Co., Jackson Avenue, Metuchen, N. J., is arranging for
a trip to Germany in the interests of his company, and expects
to sail within the next week or so. Mr. Minton will investi-
gate ceramic equipment and improved methods of production
in the industry in that country. He expects to be absent for
a period of from three to five months. He was recently
elected president of the American Ceramic Society.



R. H. MINTON



ROBERT C. MITCHELL

Mitchell Now Located in Omaha

The many friends of Robert C. Mitchell, who has always been very active in the clayworking industry, will undoubtedly be surprised to learn of his new connection in the brick game. Mr. Mitchell, whose activities have been confined to the Cleveland district heretofore, has made a considerable jump west, and is now located in Omaha, Nebr. His new position is that of manager of the Omaha district of the Reliance Brick Co., a large concern whose main offices are in Kansas City, Mo. This company also maintains other offices in Kansas City, Des Moines, Tulsa, Oklahoma City, Minneapolis, Wichita and Omaha.

The territory allotted to Mr. Mitchell includes Nebraska, Wyoming and part of western Iowa.

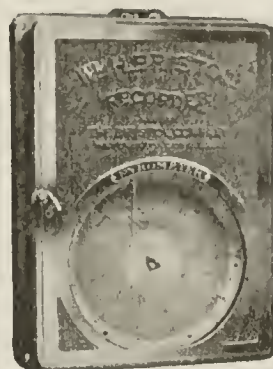
Appointed Production Manager

The Fraser Brick Co., one of Texas' progressive concerns, has recently announced the promotion of J. J. Ryan to the position of production manager. It is interesting to note the rise of Mr. Ryan in the clayworking field. After graduating from the New York State School of Ceramics in 1909, Mr. Ryan came to the Fraser Brick Co., at Ginger, Tex., as assistant secretary, in which capacity he remained for two years. He then went to the Consolidated Brick Co., at Horseheads, N. Y., as factory foreman, and remained in this capacity for one year, resigning to accept a place in the ceramic engineering department of the National Fire Proofing Co., at Perth Amboy, N. J. He remained there until 1915 when he rejoined the Fraser Brick Co. as plant manager of the Seguin plant.

Beats Him Out By Three Years

When you take to digging into the history of the brick business in America and start talking about "who's who" among the veteran "mud mixers," you want to be careful about being specific as to just who the oldest brick maker in America now living is. For instance, in the April 6 issue of *Brick and Clay Record* it was stated that J. B. Snyder, of the Snyder Brick Co., Ottawa, Ohio, is probably one of the oldest brick men in

Know Your Kiln Temperatures



Follow the temperatures your men are maintaining during every hour of kiln burning, by studying the continuous chart records of

BRISTOL'S

Thermo Electric Pyrometers

They will show every fluctuation above or below the prescribed standard.

Bristol's Pyrometers pay for themselves many times over by the economies they will enable you to make.

Shall we send you Bulletin AE-274?

THE BRISTOL COMPANY, WATERBURY, CONN.

BURN ANY COAL

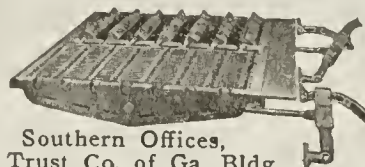
Never mind the quality; put it up to

CANTON Rocking and Dumping Grates

to take care of it. Thereby they will also take care of your pocketbook.

Smooth, even surface that will not warp.
No complicated parts. Easily installed in any furnace by any mechanic. Send for descriptive literature.

For Boiler and Kiln Grates



Southern Offices,
829 Trust Co. of Ga. Bldg.,
Atlanta, Ga.

**CANTON GRATE
COMPANY**

1706 Woodland Avenue,
Canton, Ohio

MANGANESE DIOXIDE

*Uniform Physically
and Analytically*

E. J. LAVINO and COMPANY

(Grinding Plant: Plymouth Meeting, Pa.)

Bullitt Building,

Philadelphia, Pa.

Hill Friction Clutches

Collar Oiling Bearings
and

Complete Power Transmission
Machinery Equipments

Catalogs upon Request

The Hill Clutch Co.
Cleveland, Ohio

New York Office, 50 Church Street

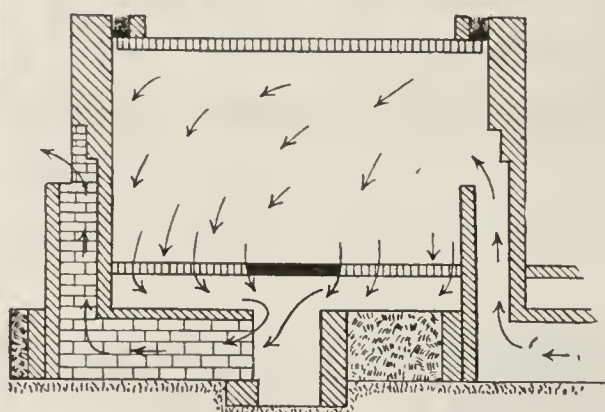


Hill Friction Clutch Pulley
Smith Type
(Patented)



THE SCOOP CONVEYOR
OVER 2000 USERS
FOR STORING AND RECLAIMING,
LOADING AND UNLOADING
CARS, TRUCKS AND WAGONS
DOES THE WORK OF
FROM 6 TO 12 MEN
AND KEEPS EQUIPMENT MOVING
WRITE FOR LITERATURE
PORTABLE MACHINERY CO., PASSAIC N.J.

Here It Is—



A direct fired continuous kiln in successful operation. Just walk along and shovel in the coal like firing a boiler. Can flash the goods the same as a round down draft kiln. Nothing to it—any ordinary kiln burner can handle the kiln. Everyone knows what a successful continuous kiln means. 50% of fuel saving. This kiln is straight down draft—cheaper to construct than round kiln.

GEO. OGAN

Okabena, Minn.

They Drill Big Blast Holes

at the plant of the Kansas Buff Brick & Manufacturing Co., Buffville, Kansas.

They say:

"It has cut the labor and fuel bill about 60%, and the powder bill about 50%. It paid for itself in the first three months; it saves enough powder each year to more than pay for its initial cost."

This is interesting because it is a fact.

Write for literature on Big Blast Hole Drilling

The Sanderson Cyclone Drill Co.
1778 Broadway
New York City
Orrville, Ohio



"The Chain of Double Life"

UNION STEEL CHAINS
CAST TOOTH SPROCKETS
CUT TOOTH SPROCKETS

Over 40 different sizes and types of steel chains to fit standard sprockets 1-in. pitch and larger. Special Chains up to 1,000,000 lbs. ultimate strength.

They've Chained Many
a Plant to Prosperity

THE UNION CHAIN & MFG. CO.
SEVILLE, OHIO

ROLLER CHAINS
BUSHING CHAINS
CONVEYOR CHAINS
ELEVATOR CHAINS
ATTACHMENT LINKS
BUCKETS
ETC. ETC.



the United States still "in the harness," having worked on and operated a brick plant since 1868.

Our old friend Geo. C. Clippert, vice-president and superintendent of the Clippert, Spaulding & Co., Lansing, Mich., thinking that we had credited Mr. Snyder with being the oldest brick man in America, rises to object, stating that if he lives to June 13, 1920, he will have been for fifty-five years engaged in the manufacture of brick. He is on the job every day and expects to continue making burned clay rectangles for some time to come.

Joint Management For Richmond Plant

C. W. Smith, president of the United Materials Co., of San Francisco, Cal., has announced that the management of the Richmond (Cal.) Pressed Brick Works, in which his company purchased a half-interest recently, will be handled jointly by the Los Angeles Pressed Brick Co., who own the other half-interest, and the United Materials Co. Plans for speeding up production at this plant are reported progressing nicely.

Calls for New Bids on Sewer System

The question of clay pipe versus cement is again demanding attention in Los Angeles. The City Council voted recently to call for new bids on the sewer system for the San Pedro Street and Florence Avenue sewer district, and instructed the city engineer to prepare an ordinance of intention covering the work. This action was taken in accordance with wishes of property owners who desire to make it possible for clay pipe interests to compete with the cement pipe interests in bidding for the job. It was brought before the council that the clay pipe interests failed to bid on the work because they were unable to meet specifications in the ordinance at the time the bids were called. When the cement interests put in their bids it was announced by the clay pipe people that they would have done the work for \$22.30 less. In view of the dissatisfaction expressed, the council members voted to reopen the work for new bids.

Urges Speeding Up Construction Work

According to Duncan McDuffie, president of the Mason-McDuffie Co., who is in close touch with the building situation in San Francisco, Cal., no relief from the present apparently high cost of building operations may be expected for a period of years. He says every effort should be made to speed up construction work here, as at the present time San Francisco is failing to keep up its building program with the normal increase in population and has not even begun to make up the deficit in housing created during the war. In his opinion the present cost of building is neither startling nor extraordinary in view of the increase in the cost of all other essentials coming under the head of essentials. A conservative estimate, he says, shows that the average increase in the cost of necessities other than those entering into building operations has been about 92 per cent., while the latter has been but 65 per cent. Here in California, where most of the basic materials, such as lumber, brick and other clay products, cement, etc., are at hand, the increase has not been as great as this. Mr. McDuffie says his firm intends to go ahead with its construction program as rapidly as possible this spring. Within the past week they have let the contract for the improvement for an addition in the St. Francis Wood district that will provide for forty more home sites. While brick does not enter into the construction of homes in San Francisco to any considerable extent, Mr. McDuffie's statements have a direct bearing on the general building situation, which if heeded and concurred in by builders generally, would have a tendency to stimulate

building of all classes to a considerable extent hereabouts. There is a great amount of construction work in progress and planned for the next few months, but the general impression in building circles is that more activity could reasonably be expected in view of the actual need for more homes as well as business structures in the downtown section.

Labor Shortage Holding Back Production

When it comes to speeding up the building program in San Francisco, Cal., in so far as brick construction is concerned, the problem of supplying the demand for brick comes up for serious consideration. Altho every effort is being made at the brick yards, on which this market depends for its supplies, to speed up production, deliveries are behind even on the amount of work now in progress. In discussing this phase of the problem, W. W. Dennis, manager of the McNear Brick Co., says the labor situation is the principal drawback just now. The brick plant workers on this coast, he says, for the past twenty years have been over ninety per cent. Italian born while today, the number of Italian laborers available for this kind of work is less than twenty per cent. of the men required at the various plants, many having returned to their native land in the last few years, whereas the number of immigrants coming to this country from Italy has fallen off very decidedly. The brick yards are, therefore, forced to undertake the education of other workers, which so far has proven rather slow and more or less unsatisfactory, the other nationalities apparently not taking to the brick trade with the same degree of efficiency as does the Italian laborer.

In an effort to improve conditions at the plants in which he is interested, Mr. Dennis has recently spent several weeks working along with the men, in order to get a better understanding of just what is needed to improve labor conditions in the brick industry here. At present he points out that the manufacturers in this vicinity are behind on orders and it is impossible to estimate what output of brick can be expected for 1920. Improvement in the situation is anxiously awaited, he says, as there are several large buildings contemplated in San Francisco and the neighboring cities, which call for brick construction, and on which no promises for deliveries on materials can be made. The Federal Reserve Bank Building alone, Mr. Dennis says, will require over three million brick in its construction. Furthermore, there are the twenty-story brick office building for the Standard Oil Co., the fifteen-story Balfour-Guthrie building and other large structures on the immediate building program. Announcement has just been made that the exterior of the fifteen-story building to be erected at Montgomery and Bush Streets by the Crocker Estate Co., will be of brick, terracotta and ornamental iron.

Buys Site for Brick Factory

The Overland Pressed Brick Co., Denver, Colo., has purchased twelve and one-half acres of land near Overland Park, which includes a big bluff of fine quality clay, as the location for a plant to produce high class brick. The Overland Pressed Brick Co. is a new Denver concern, headed by Alexander Brown, William E. Young, W. F. Robinson, C. C. Schrepferman, John H. Rouckhom and William E. Flohr.

Heavy Rains Hold Up Production in South

As a result of a meeting held at Macon, Ga., recently, which was attended by a number of common brick manufacturers, several new members have been added to the rapidly growing list of the Common Brick Manufacturers Association of America.

Leschen Wire Rope Tramways

The efficiency of the Leschen Aerial Wire Rope Tramways for handling materials has been demonstrated by the actual operation of many installations.



We have had many years of practical experience in this line of work, and shall be glad to discuss your transportation problems with you.

ESTABLISHED 1857

A. LESCHEN & SONS ROPE COMPANY

New York Chicago ST. LOUIS Denver San Francisco

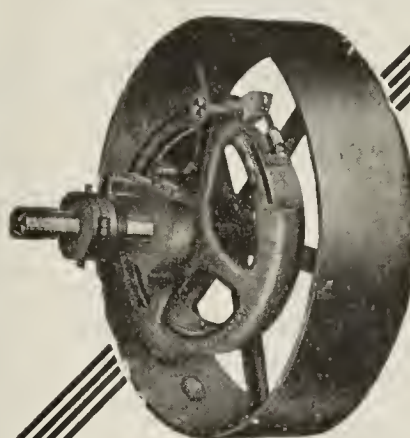
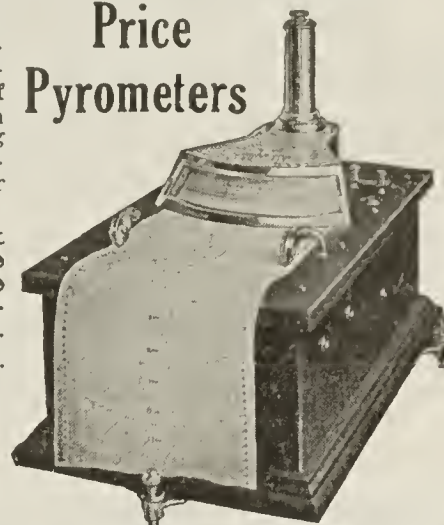
By giving burners an accurate control over temperatures, and helping to prevent useless shoveling of coal, Price Pyrometers in many plants are saving tons of coal. These instruments have repaid their first cost long ago.

There are other important advantages in using Price Pyrometers. We will be pleased to explain these advantages to you in detail. Ask us. Catalog on request.

The Price Electric Co.

12367 Euclid Ave.
CLEVELAND OHIO

Price Pyrometers



Clutch Service

Service is a good old word often abused. But when applied to the Caldwell Friction Clutch, it carries all the force of its meaning.

Simple, strong, compact, efficient, the Caldwell Clutch transmits all the power you give it easily, dependably.

One Lever Controls It;
One Screw Adjusts It.
Absolutely Safe.

Send for Catalogue

W. E. CALDWELL CO.

INCORPORATED

400 E. Brandeis St., Louisville, Ky.

Caldwell
FRICTION CLUTCHES

STANBRIK

Patented

Hollow Interlocking Brick.

A face brick and a backing all in one.

Non-continuous mortar joints.

Have the appearance of solid face brick.

License granted to manufacturers in United States & Canada.

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CLEVELAND, OHIO



We Can Save You Time, Money and Trouble on Fire Brick

BECAUSE OF

Quality, Price and Service

Freight Rates on all R.R.'s in UNITED STATES and CANADA

A Trial Shipment Will Convince You. Write Us

ALSEY BRICK & TILE COMPANY
ALSEY, ILL.



Easy, Cool Bearings

Nonpareil Anti-Friction Metal is particularly helpful on heavy bearings in brick and clay plants, on motors, cars, and on all bearings that are apt to develop friction and heat. More power. Less shrinkage and less oil. No more hot journals.

Nonpareil has been easing the load on bearings since 1885. Trial order solicited.

THEODORE HIERTZ METAL COMPANY
8011 Alaska Avenue ST. LOUIS, MO

The MINTER SYSTEM of Continuous Burning Down Draft Kilns

Speeding up Production of Face Brick these days is necessary in order to supply the demand.

Coal is very scarce—Hard to get. All indications point to a general shortage for some time. The coal you can get must be utilized to the best advantage.

Would it pay you if you could burn more brick—a few million per year—with the coal you can get?

It can be accomplished by the continuous system of burning on your down draft kilns. Foremost is the MINTER SYSTEM—Because WE HAVE COMPLETE CONTROL, guaranteeing No. 1 ware production.

Let us show you how.

The Flint River Brick Company
ALBANY, GEORGIA

Ralph P. Stoddard, who is secretary-manager of the above association, was on hand to address the meeting on the program of the national association and the great advantages that would come to the manufacturers if they would join this worthy organization.

Extremely high water and a cyclone which occurred the day preceding held down the attendance somewhat. The manufacturers of Georgia are terribly handicapped by high water which has resulted from the heavy rains which have occurred in the South during the past eighteen months, and this is a great factor in the shortage and high price of brick there. Because of the flooded clay pits, the brick production is at low ebb.

\$100,000 Plant to Be Built at Macon

A brick manufacturing plant costing \$100,000 will be erected in East Macon, Ga., it is reported. Application for a charter has been filed by E. M. Elliott, R. G. Jordon and J. B. Wall, who make up the Macon Brick Corporation, and all of whom are Macon business men. Work will be started at an early date on the plant, it is stated.

Establishes New Sales Offices to Expand

H. D. Conkey & Co., manufacturers, dealers and distributors, at Mendota, Ill., have been actively engaged in the wholesale coal business for some twelve years and eight years ago started in the sand and gravel washing business, at present operating and selling the output of four plants in Illinois.

Some five or six years ago the company became interested in the selling end of the clay products game and now devotes a large part of its energy to this portion of the business. At the start of this year branch sales offices were opened in Detroit, Mich., and Waterloo, Ia., to take better care of the trade in these markets and cover thoroly all of northern Illinois, Michigan, southern Wisconsin and Iowa.

In addition to being financially interested in some plants, H. D. Conkey & Co. handles the output of others and is now selling the majority of the output of five face brick plants, four hollow tile and drain tile plants and four common brick plants. All of these products are sold under the trade name of the "Conco Clay Products."

Cannot Keep Up With Orders—Builds New Kiln

The Risclay Brick Co. is building a new kiln at its plant east of Michigan City, Ind., which will increase the capacity to nearly 2,000,000 brick per year, this kiln having a capacity of 350,000 brick and representing an outlay of \$40,000. The company is far behind in its orders, the present output being confined to contracts in South Bend, Gary and Michigan City. The concern recently added a steam shovel to its equipment.

Business Booming at Louisville

Business is booming with the Louisville jobbers and manufacturers of clay products, there being a heavy demand for building materials of all kinds. As a result of strikes of general building trades having been settled, things are now humming along at a good rate, with prospects of all brick concerns having all they can do until snow flies again. In fact, if building operations are to continue as heavy as they are at this time, more brick plants or enlarged plants will be necessary if the supply is to equal demand.

Will Build Larger Plant at Louisville

As soon as an insurance adjustment is made and probably before that time if the adjustment isn't made quickly, the P. Bannon Pipe Co., of Louisville, Ky., will start work

on rebuilding its main hollow tile and sewer pipe plant, which was burned in late March, at a loss of something less than \$40,000, fully insured. The company plans to build a larger and better plant, at a cost of \$50,000 to \$75,000, as it needs increased capacity.

A. P. MacDonald, sales manager, reports that the customers have treated them nicely, and have bided with them. Demand for hollow tile and sewer pipe is very heavy, and increasing steadily, while the concern is unable to take much new business except for far future delivery at the present time.

Purchases Addition to Plant

The Granite City Pressed Brick Co., of Springfield, Mass., has purchased a large track of land on Parker Street from Nellie R. Sullivan, as an addition to its plant.

Boston Plans Many New Schoolhouses

Boston dealers have advanced the price of common brick, the price generally quoted during the last ten days being \$30 per thousand for up-and-down brick, delivered on the job. Increased production cost is the reason for the new price. Manufacturers generally have about all the business that they can attend to. Yards closed during the winter are being reopened daily and almost invariably with goodly orders waiting to be filled. In Boston proper several large brick mercantile buildings already are in course of construction and plans for several others which will require many brick have been announced. Factory additions in manufacturing centers outside of Boston will call for many more brick, while the number of new schoolhouses planned for the next few months is greater than at any period since the war started.

Gardner Brick Plant Bought by J. Langlois

Frank M. Favor, who for a number of years has operated a brick yard on West Broadway, Gardner, Mass., has disposed of the property to Joseph D. Langlois, a local business man. Wood sufficient for the season's burnings is on hand and Mr. Langlois plans to begin brickmaking operations very soon. Alec Caron has been secured as superintendent of the plant and is now putting it in order.

The yard is one of the oldest brickmaking establishments in Central Massachusetts. For many years it was operated by the late Elijah Hinds and his sons and from it came much of the material used in homes and factories in Gardner. It passed from the Hinds family into the hands of George N. Dyer who later sold it to Mr. Favor. During the time that he operated the plant, Mr. Favor replaced the old horsepower machinery with modern electrical apparatus and increased the output very considerably.

✻ ✻ ✻

The Universal Brick Co. has been established at 58 Front Street Worcester, Mass., by Arthur E. Farnum, Arthur E. Farnum, Jr., and Roy C. Farnum.

✻ ✻ ✻

The Eastern Clay Goods Co., of 73 Tremont Street, Boston, Mass., has an extensive contract for sewer materials for the city of Cambridge, Mass.

Manufacturers Figuring on Street Work

Contractors both in St. Louis and East St. Louis are failing to bid on sewerage and street construction contracts of any great size and the average number of estimates to each job is three or four, varying inversely with the size of the work. Contractors, evidently, are afraid to take a chance at any odds with present price conditions and

You can get a higher price for your brick if you guarantee it will be

Scum-Proof

And you can do this with perfect safety by using

R. H. Precipitated Carbonate of Barytes

It neutralizes the salt in your clay so that it cannot appear on the surface of the brick after it gets wet.

But don't accept a substitute—insist on R. H.—the dependable brand.

Write for circular and prices.

The Roessler & Hasslacher Chemical Company

100 William St.

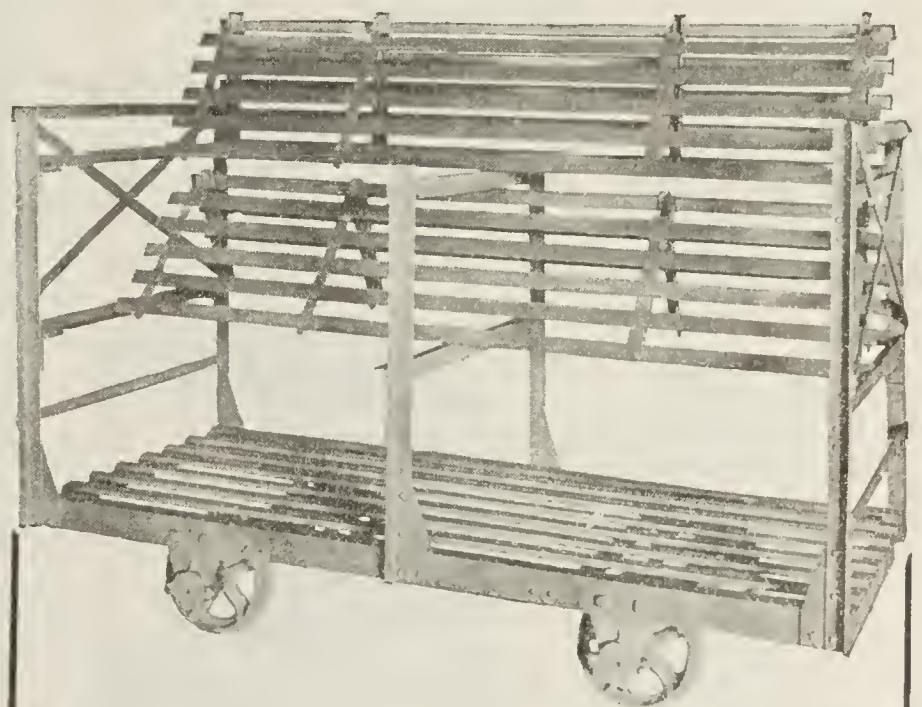
New York

Chicago, Ill.
Cincinnati, O.
Cleveland, O.

St. Louis, Mo.
Kansas City, Mo.
San Francisco, Cal.

Philadelphia, Pa.
Boston, Mass.
New Orleans, La.

We carry a complete line of high grade chemicals for the clay industry



EVERY Conkey Dryer Car that leaves our factory is headed for a definite job.

If it is designed for light loads and long hauls it naturally is going to be different from a car intended for heavy loads and short hauls.

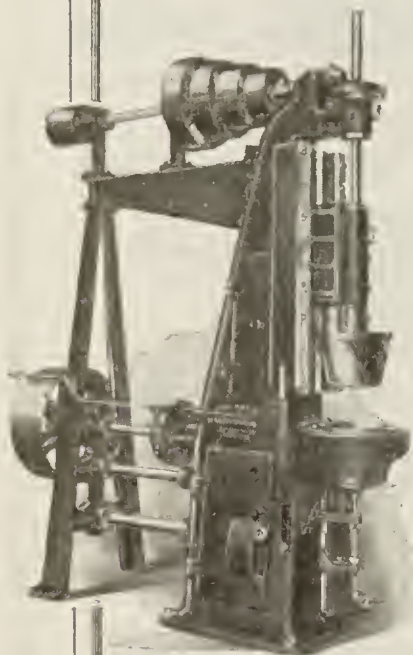
Our engineers will be pleased to advise you regarding dryer cars that will fit into your requirements. Ask for descriptive booklet.

H. D. Conkey & Company

Mendota, Illinois



Enormous Profits Can Be Realized



manufacturing Flower Pots, Sleeves, Nozzles, Insulators, etc.,—if you have the right kind and dependable moulding machine.

The reason for the success of these machines is because they have speed, turn out ware that is better in quality and uniform in the moulding, and they require only unskilled laborers to operate them.

On these points are based your profits in the specialty business.

Send us a sample of your clay with your inquiry.

BAIRD MACHINE & MFG. CO.

265-69 Jefferson Ave., E. Detroit, Mich.

labor. On the other hand, manufacturers, especially in St. Louis, have been figuring on the large amount of street work to be done late in the summer and in the fall. The majority of such projects, however, will not be offered until mid-season.

Barge Lines Relieve Congestion Somewhat

Some manufacturers of clay products in the St. Louis district have found a little relief from the muddled railroad situation, the result of the switchmen's strike, in the use of the Mississippi River barge lines wherever possible. Others who operate their own barges for hauling fire clay, have been able to use them in getting products around the congested terminal in some instances. Altho every available craft on the river had been chartered the day after the strike first became serious in St. Louis, those manufacturers who had used the river route in normal times were able to get space. The big clay industries in the northwestern part of the city, including the Hydraulic-Press Brick Co., Laclede-Christy Clay Products Co., Excelsior Press Brick Co., Progress Press Brick & Machinery Co., Superior Press Brick Co., and several others, found themselves practically cut off. These plants depend upon the Terminal Railways belt. Some plants laid off part of their forces.

Hollow Tile Finds Large Use in Homes

The use of hollow tile in the St. Louis district is showing some surprising increases, despite the fact that St. Louis is known as a comparatively poor market for the product. The use of partition tile in brick projects now in the course of construction also shows an increase. The greatest demand for hollow tile is for use as the chief building material in small homes. The St. Louis building code prohibits this use of hollow tile but in the numerous subdivisions surrounding the city and having separate city governments the demand for the product is surprising. A large number of homes were erected on this plan late last summer and it was predicted by many that this season would see great progress with hollow tile. Harry Kennedy, St. Louis agent for the Interstate Clay Products Co., last year handled many contracts for hollow tile and was one of those who looked for a big increase in its use this year. The Interstate company has many contracts to furnish hollow tile for projects in the St. Louis district.

Will Install New Machinery

The Ironclay Brick Co., of Columbus, Ohio, has entered into a contract with Mulby Bros., to operate one of its common brick plants at Joyce and Seventeenth Avenues, Columbus, during the present season. The product is to be sold by the Ironclay Brick Co. Additional machinery will be installed and the capacity will be increased to 4,000,000 annually. The plant will be put into operation just as soon as the weather will permit.

Marked Shortage in Commons

The feature of the brick trade in Columbus and Central Ohio territory is the demand for common brick. There is a marked shortage in the supply and consequently manufacturers are trying to increase their output. Common brick of the better quality now sell from \$24 to \$25 delivered on the job. All of the common brick factories in Central Ohio will soon be in full operation and the shortage may be partially supplied at least.

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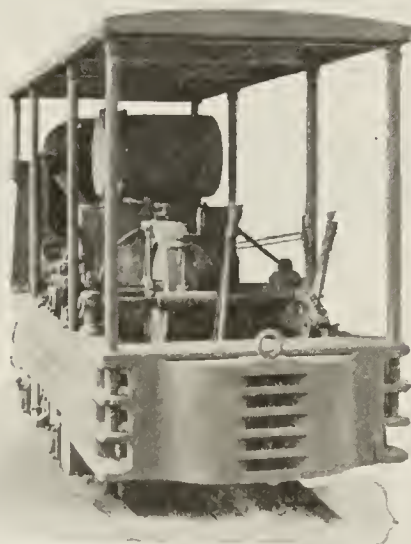
The Hocking Valley Brick Co., of Columbus, Ohio, has secured the contract to furnish paving brick on an Ohio

DURABILITY

These important features of the

BURTON

Gasoline
and
Kerosene
Locomotive



assure you of lasting durability. They form a power unit that will stand the severe treatment received in clay plant yards and pits.

Latest type Herschell-Spillman motor—no coal or steam required. Forward and reverse at any speed. Radiator that is always cool. Brakes on all wheels. Sand kept hot by exhaust—sure control. Power transmission through spur friction on a large shaft carried on Hyatt Heavy Duty Bearings. Steel Roller chains and cast steel sprockets—no Gears, Differentials or Clutches.

Our engineers are at your service. Ask for a copy of booklet describing the Burton Locomotive.

**THE BURTON ENGINEERING
& MACHINERY CO.**

CINCINNATI, OHIO, U. S. A.

Highway job in Hocking County at Rockbridge. The contract for the work was awarded recently by the Highway Commission.

Advocate Widening of Main Highways

Agitation for widening of national, state and inter-county roads in and near Cleveland, Ohio, has been started by county officials in Cuyahoga County. County Engineer W. A. Stinchcomb has advocated the widening of main highways, such as that between Cleveland and Akron, to 40 feet instead of 18 feet. The claim is made that twice as much tonnage now is carried by trucks between these two points as is carried by railroads. The increase is largely due to the delays in shipments by railroads.

Work on New Hollow Tile Plant Started

The Franklin Brick & Tile Co., of Columbus, Ohio, which operates a large common brick factory at Taylor Station, east of Columbus, has completed 10 of the 25 new homes for its workers. The additional 15 houses will not be started immediately but later in the summer. The company is also completing an addition to its kilns which will double the capacity of the plant. In addition, the work of erecting the new hollow tile plant, which will cost approximately \$500,000 has been started. This work is being done under the company's engineer and will probably be completed in September or October. The plant will be 250 by 500 feet, a large part of which will be two stories high.

Forced to Refuse Orders for 30 Days

The strike of switchmen and other railroad employes has completely tied up railroad traffic in Ohio as in other sections. This immediately affects the brick manufacturer and dealers and practically no shipments are moving out of the Hocking Valley section where a large proportion of clay products for the middle West are manufactured. Some shipments are going into Maryland, North and South Carolina, but northern and western shipments are embargoed. This, coupled with the very short car supply previous to the strike, is causing a great deal of trouble to brick men generally. Practically all of the factories are way over-sold and since they cannot ship, stocks are piling up at the factories. One Columbus concern has closed its order books and will not take orders for 30 days at least. This concern has over 6,000,000 face brick sold.

Slight Let-Up in Building Operations

Inclement weather coupled with tightness of money has caused a let-up in building operations in Central Ohio territory. While there is a good deal of construction work on hand still, new work is not brisk and contractors and supply people believe that there will be a lull towards the middle of the year. Building permits in March were quite numerous, showing a nice growth in operations. During the month the Columbus building department issued permits for \$1,447,000 worth of work as compared with \$281,670 in March of last year. This number in March, 1920, was 301 as compared with 295 permits in March of the previous year, indicating that larger projects are on foot. For the first three months of the year the department issued 505 permits having a valuation of \$2,897,290 as compared with 557 permits and a valuation of \$976,500 in the corresponding period in 1919.

Independent Buys Murray Brick Plant

The Independent Brick & Tile Co., Cleveland, Ohio, has purchased the plant and other assets of the Murray Brick

ERIE Shovel
owned by
Jackson-
Bangor Slate
Co., Pen Ar-
gyl, Pa.

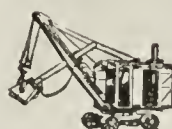


"Very Economical"

"During the past year we have moved approximately 50,000 cu. yds. of slate shale with our ERIE Shovel. It is a wonderful machine, ideal for our work, as it is easily moved.

We find it very economical and inexpensive. We are very much pleased with our investment." N.M.

Male, Sec'y, JACKSON-BANGOR SLATE CO
Pen Argyl, Pa.



Serves as
Steam-Shovel
or Crane
(Clamshell)

The ERIE Shovel is easy to operate. Very speedy. Built with extra strength all the way through. Gives steady service in hard shale.

Let us send you full details about the ERIE Shovel, and what it will do. Write for Bulletin B.

BALL ENGINE CO., Erie, Pa.

Builders of ERIE Steam Shovels and Locomotive Cranes

ERIE Revolving
Shovels

BALL
Engine Co.
Erie, Pa.



Light steel rails

We saved the day for the Clay and Coal Operators in War Times by furnishing BUCKEYE MINE RAILS, whenever and wherever needed, and while many other Steel Mills were running exclusively on other material, you could not have operated without us at that time.

Now, in Times of Peace, we ask that you do not forget us, as we can, and will render the same unexcelled service, and furnish the same high quality of material. "Buckeye means best", and BUCKEYE LIGHT STEEL RAILS are better still. All sections from 12 lb. to 40 lb. inclusive always in stock for quick shipment.

Let us have your inquiries, and we will take the chance of developing them into orders on our books.

THE BUCKEYE ROLLING MILL COMPANY
STEUBENVILLE, OHIO

Jenkins Standard Brass Gate Valves

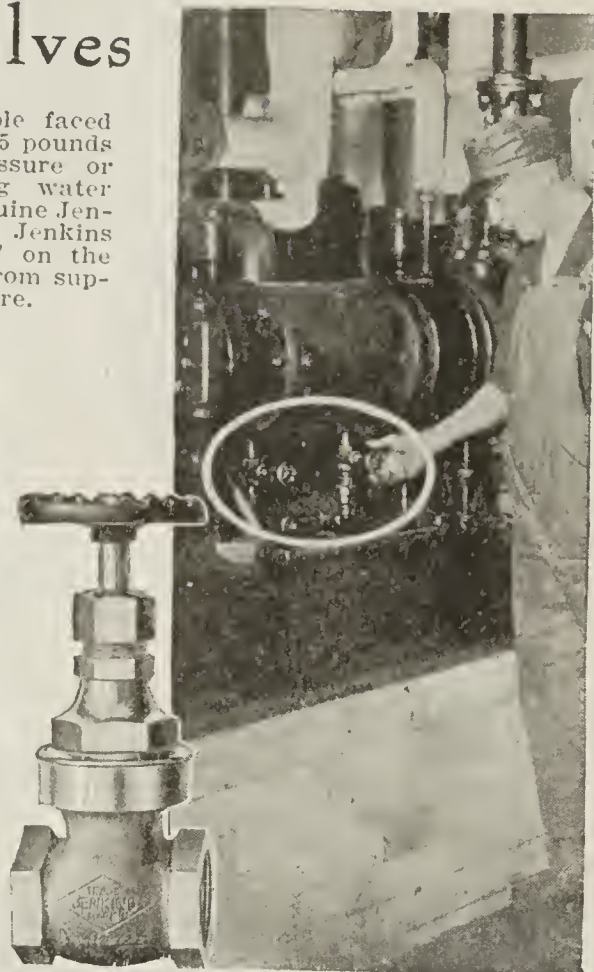
Solid wedge, double faced type. Suitable for 125 pounds working steam pressure or 175 pounds working water pressure. Know genuine Jenkins Valves by the Jenkins "Diamond Mark" on the body—obtain them from supply houses everywhere.



FIG. 370 Jenkins Standard Brass Gate Valve Installation photograph taken in Equitable Bldg., New York City.

JENKINS BROS.

New York
Chicago
Boston
St. Louis
Washington
Pittsburgh
San Francisco
Philadelphia
Montreal
London
Havana



Jenkins Valves

2139-J

Rollin's Barium Carbonate

"We find that the use of Barium not only entirely eliminates the scum caused by sulphates, but deeper and richer colors result than would be expected." So writes a clay products company in Kentucky.

It is obvious to any clay products manufacturer that Barium Carbonate added to the pug mill or to the dry pan will produce brick and tile that command a higher price. It will build up more business than an inferior product which is "off color" and marred by white streaks.

Barium Carbonate makes the salt glaze stick to sewer pipe.

We can show you how the appearance of your ware can be improved, and can give you names of clay concerns who are profiting today by the use of Barium.

Write Us NOW

Rollin Chemical Corp.
EQUITABLE BUILDING
120 Broadway, New York City

Co., of that city, located on Rockside Road, Garfield Heights. The plant has a present capacity of 35,000 face brick a day, which has been the specialty under the old management. About a year ago this plant was visited by fire, and since then operations have not been up to normal.

Under the new management the plant will be rebuilt and enlarged. Improvements are expected to be completed before May 1. As operations progress plans will be made for the production of common brick and tile, according to Herbert F. Geist, president of the Independent. Glancy L. Warstler will be superintendent of the new plant. Mr. Warstler is well known to the brick and tile industry throughout Ohio, and is especially known in production districts adjacent to Canton and Cleveland.

Freight Tie-Up Merely Exaggerates Cleveland's Condition

The tie-up of freight handling in the Cleveland district, spreading to Northern Ohio after its inception in Chicago in less than a week has not affected the building material, brick and tile interests as seriously as the first few days indicated it would. This, Herbert F. Geist, as president of the Builders Supply Board of Cleveland points out, because the freight situation already has become more acute than in other large communities, and this tie-up merely served to exaggerate the condition.

With a fair supply of material accumulating during the first few days of the strike it was estimated by supply dealers here that there would be sufficient to meet the present building demand for two weeks, but that before the end of April these stocks would become exhausted.

Tremendous increase in costs, if brick and tile were allowed to accumulate, was seen by Ralph P. Stoddard, secretary-manager of the Common Brick Manufacturers' Association of America. He pointed out that one handling of material, from the kilns to the trucks and to the jobs alone has kept prices down, and that if a second handling of the material were to ensue, tremendous costs would result. Aside from food, the most acute shortage to develop immediately after the strike was called in the Cleveland district was in fuel, and coal, already in light supply here as elsewhere in the country, was becoming so short that those kilns depending upon coal would soon have to close, according to information received at common brick manufacturers headquarters here.

Regardless of the outcome of the outlaw freight strike, this question of transportation for brick and tile and all building materials for that matter will be a paramount issue to be discussed at the coming meeting of the directors of the National Builders' Supply Association and local association secretaries, to be held in Cleveland April 21-22. Preparations for Cleveland's part in the meetings have been made by a committee comprising Herbert F. Geist, president, and C. H. Patterson, secretary, the Builders' Supply Board of Cleveland.

Aim to Bring Together Various Units of Building Industry in Cleveland

Investigation into building costs, freight congestion aggravated by the switchmen's strike, and settlement of the housing and general building shortage in the Cleveland, Ohio, district—these problems are expected to be solved with the formation of the fourth regional district of the National Federation of Construction Industries, soon to be a fact in Northern Ohio.

Brick and building supply interests generally are enthusiastic for the results, following the visit to Cleveland of Harry Morgan, personal representative of Ernest E. Trigg,

president of the National Federation. Mr. Morgan came to confer with John A. Kling, president of the Cleveland Builders Supply & Brick Co., and vice-president of the National Federation for this district. Mr. Morgan also conferred with Charles F. Lang, vice-president of the Lakewood (O.) Engineering Co., and director of the National Federation.

The aim will be to start immediate organization of this district, the fourth, corresponding with the fourth Federal Reserve district. The Cleveland district will be the second to be organized, Chicago being the first regional district.

The object will be to bring together all the various units of the building industry in the Cleveland district, with a view toward presenting a comprehensive program with which to impress the government at Washington, the railroads as individual owners and other national factors with the basic importance of the building industry, upon which the prosperity and progress of any community must depend for development if not for actual existence.

In his talk on the work as outlined for Cleveland, with Ralph P. Stoddard, secretary-manager of the Common Brick Manufacturers' Association of Cleveland, headquarters of which are now in the Schofield Building, Cleveland, importance of putting building materials and their handling first, and the so called luxuries second, was emphasized by Mr. Morgan.

Thru the organization of these regional districts of the National Federation, the problem of the building world at this time will be handled, such as fuel, legislation, labor and the numerous other angles akin to normal progress of the industry. The movement in the Cleveland district is expected to be the beginning of swelling the membership of the National Federation from 200 individuals and associations to 20,000 individuals and organizations. The Cleveland Builders Exchange and the Building Trades Employers' Association are among Cleveland organizations already members of the Federation.

Cleveland Starts Work on 5,000 Houses Project to Relieve Shortage

The drive for 5,000 additional houses in the Cleveland district, 5,000 houses in addition to the approximate 5,000 erected last year, has started. The move is the outcome of the Cleveland Real Estate Board's plan to unite financial, building, industrial and other semi-public interests in concerted effort to eliminate, or reduce, the housing shortage here. The work will progress under the leadership of the Allied Housing League, formed for this special purpose. This league will seek to raise a \$1,000,000 fund. Its efforts will be supplemented by a citizens' committee, headed by Frederick Goff, president of the Cleveland Trust Co. The united efforts will seek to line up the material, men and finances for carrying out the project. The material interests' part will be taken care of in part by the Material Dealers' Association and the Builders' Supply Board of Cleveland. Secretary C. H. Patterson, of these organizations, is now compiling data on materials available locally or in transit. What surplus is over the present orders that must be filled within the next 30 or 60 days, is expected to be available for this 5,000 house project.

With this plan as a working basis, if necessary, the nation will benefit from Cleveland's lead. This is the opinion of Irving E. Macomber, vice-president of the United States Housing Corporation, who arrived in Cleveland recently to aid in the Allied Housing League's work. The results attained in Cleveland, in building additional homes in the face of high costs, will do much to solve the similar problem of every large city in the country, says Mr. Macomber.

With the starting of this program, comes the announcement

Perforated Steel Screens Of Every Description

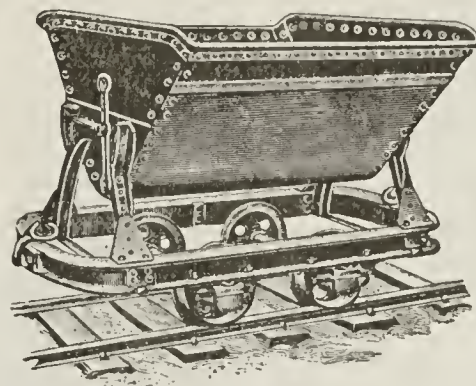
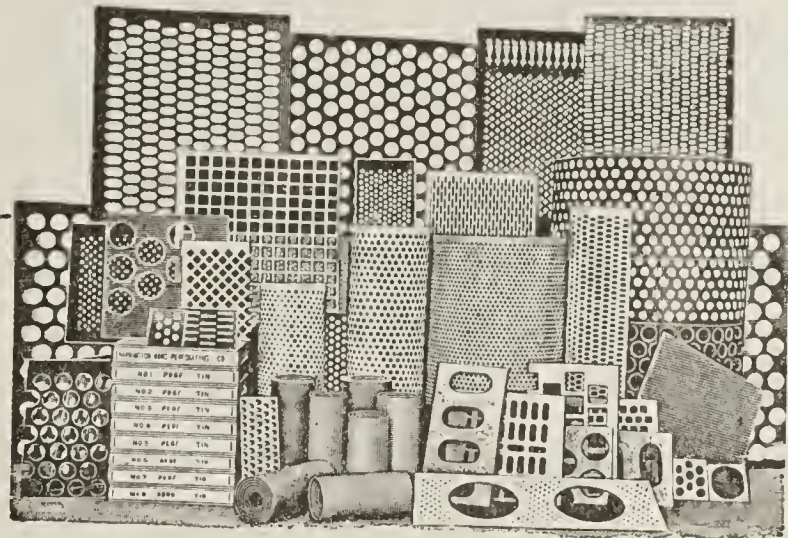
For Screening Clay, Shale, Sand,
Gravel, Stone and Cement

No Other Screens Will Give You Equal Capacity,
Durability and Satisfaction

The Harrington & King Perforating Co.

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Biehl Side Dump Cars

This cut pictures our Side Dump Car for handling Clay and Shale. It is substantially constructed and has interchangeable metal sills. Made in standard sizes and can be supplied on short notice.

We also design and build "V" Dump Cars, Dryer and Platform Cars, and other clay plant equipment. Write us your requirements. Catalog No. 8c on request.

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We specialize in steel car wheels



STEEL SHELL KILNS

(Patented)

Save Fuel
Increase
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Burn Better
Ware
Decrease
Construction
Cost

and

*Deliveries
Prompt*

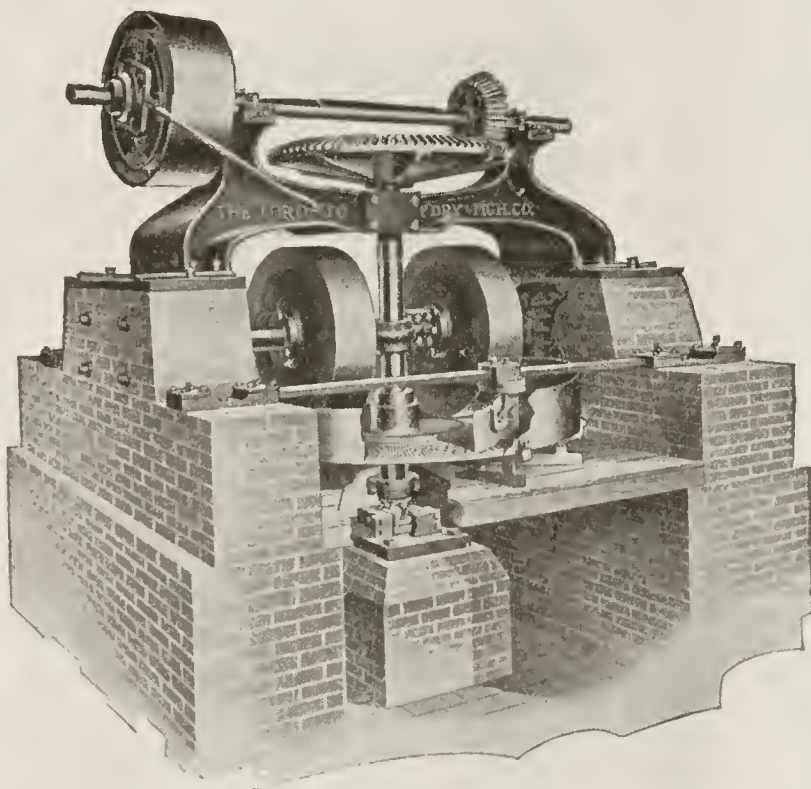
Are in Greater
Demand than
Ever Before

**TRAUTWEIN DRYER
& ENGINEERING CO.**

Sole Manufacturers

608 South Dearborn Street, Chicago

THE MEANS GRINDING PANS



For Grinding Wet, Semi-Dry and Dry materials. Made in sizes adopted by the best judges. We are in position to solve your grinding problems.

**SINGLE, DUPLEX OR BATTERY INSTALLATIONS OF
8, 9 AND 10 FOOT PANS.**

Write for Descriptive matter and prices on Pans Also Bulletins on Sewer Pipe and Tile Presses, Elevating and Conveying Machinery, Trucks, Barrows and other equipment for the clay products manufacturer.

THE TORONTO FOUNDRY & MACHINE CO.
Toronto, Ohio

from the Suburban Development Co., formed to build a model city near Cleveland. Such is the statement of Wilbur Dunham, general manager of the company, in stating that his company has purchased 3,000 acres near Cleveland and is negotiating the purchase of 2,000 more acres. Location of the proposed "city" is withheld for the present. It will comprise three distinct groups—a manufacturing or industrial section, a working men's cottage district, and a country estate tract, according to Mr. Dunham. More than 25 houses will be started at once, it is said. The property is said to be located on a main line steam railroad and that an inter-urban road will build a right of way into Cleveland.

The entire agitation for more construction in Cleveland is, in the opinion of many leading interests, largely the outcome of the Chamber of Commerce demand for an investigation into the high costs of building. The county grand jury has started its inquiry, but so far has confined its work to testimony from witnesses in the real estate field.

Brick Plant Will Help Build City

According to John L. Salway, construction engineer for the Comanche (Okla.) Brick & Tile Manufacturing Co., in an address before the Lawton Chamber of Commerce, this company has plans underway for building a \$50,000 brick plant this summer. The products of this plant will aid in building operations in Lawton and to improve the housing situation. It is stated that inducements will be offered to prospective builders to obtain building material from the brick plant at a cheaper cost than it could be obtained from sources outside of Lawton. The company will give a 25 per cent. reduction in the cost price to the local builders who will be given stock in the company for the amount in return. Altho a large portion of the stock in the company has been taken by eastern capital, a block has been retained for Lawton people, and will be offered them before work of constructing the plant is started. The plant when in operation will be controlled by local men and will be entirely a home industry. The manufacture of 40,000 brick daily will be the capacity of the plant from the start. Contracts for six months of the output have already been made. In addition to brick, tile and sewer pipe will be manufactured.

The Pittsburgh Market Promising

In spite of the inclement weather in the Pittsburgh district, the brick and other clay products market is now experiencing the biggest boom in its history. Four hundred brick houses, ranging from 7 to 15 rooms, will be started within the next 60 days, and contracts for the materials are giving the market quite an impetus.

Dealers report an unusually big demand for backing-up tile and common brick, and while the prices of these are unchanged as compared with the preceding week, substantial increase is expected any day now. Four of the leading steel companies of the Pittsburgh district are in the market for common brick to build office structures and additions to their plants.

Much road work, which will necessitate millions of brick, is being planned by the city, county and state. Cramped narrow streets in Pittsburgh are being converted into modern thoroughfares and the city Government has indicated that brick should be used extensively in this work.

Brick roads, it would appear, are again coming into favor in many parts of the state and county. The state road commissioners have expressed their advocacy of brick roads in many parts of Pennsylvania, saying that in the long run thoroughfares made of brick are more economical than the macadamized. It is reported that the City of Pittsburgh will expend \$100,000 for brick during the remainder of the year.

Brick manufacturers and dealers are very optimistic over

the outlook. They believe that July will witness the full development of the most prosperous brick and tile business in the history of the industry.

It is conspicuous that nine-tenths of the specifications on new structures call for brick.

Received Charters on March 22

Nichols Brick & Tile Co. has been incorporated at Dyersburg, Tenn., by John M. Nichols, C. A. Rogers, E. L. Smith, C. C. Jacobi and E. E. McDavid, with a capital of \$25,000.

Highland Brick Co., McEwen, Tenn., was incorporated with a capital stock of \$5,000, by A. B. Chowning, J. I. Slonecker, E. Cowen, J. A. Bradley and W. D. King.

Enlarging Plant for Increased Production

The Stamford (Tex.) Brick Works, recently purchased by Charles Brewington, will install a dryer in the near future, as well as a gravity loading machine. At the present time only brick is being manufactured at the plant but the installation of machinery for making tile is contemplated.

The building contemplated in West Texas has caused orders for upwards of 600,000 brick to be placed ahead of the output at this time.

Texas Outlook Bright

"Texas is now in the midst of the greatest building era in history," says J. J. Ryan, of the Fraser Brick Co., "and the prospects are that this era will continue for several years because Texas is being developed more rapidly now than ever before and Texas has unlimited resources to develop.

"There is no reason why Texas manufacturers should not produce practically everything needed to carry on this great building program. Texas lumber is second to none. Texas clay is inexhaustible in quantity and unexcelled in quality, and makes as good brick and tile as can be bought anywhere. It is convenient and accessible, and does away with the long hauls on railroads, saving freight costs and time.

"Texas now leads in agricultural production, and will no doubt always lead, but very soon Texas will begin to lead other states in the production of various manufactured articles and one of them will be building materials.

"Texas is better fitted to supply all needed building materials than any other state. Builders are coming to realize this more and more and are using Texas produced materials in greater percentages every year."



The Globe Brick Co. of East Liverpool, Ohio, is constructing a large brickmaking plant at Newell, W. Va., in which is to be installed \$50,000 worth of machinery.



Wisconsin Face & Fire Brick Co., Milwaukee, Wis., has increased its capital from \$30,000 to \$50,000.



What Our Canadian Friends Are Doing

The Inter-Provincial Clay Products, Ltd., has secured a federal charter with a capital of \$500,000. The head office is not mentioned.

The Sidney Brick & Clay Works, Ltd., Sidney, Man., is planning to operate on a larger scale and is endeavoring to increase the staff with that object in view.

A. L. Jex has sold the brick works at Cobourg, Ont., which he purchased a few months ago from Messrs. Hiscock, to McIvor Brothers of Belleville. They will continue to operate the plant.

Toronto's building permits for March amounted to \$2,062,747

WATERBURY

WATERBURY ARMORED ROPE

WATERBURY ARMORED ROPE

FLOW STEEL

WATERBURY ARMORED ROPE

IN STEAM SHOVEL WORK

THIS is another service in which wire ropes are subjected to unusual strains and wear. The dust and grit raised in digging operations of this character is exceptionally hard on ropes. The Clay Products Company of Brazil, Indiana, is using Waterbury Armored Rope on their shovels with the result described by them, as follows:

"Referring to your issue of November 26th, we advise that your 1 1/2" Gore Construction rope is giving us about 180 days' service and still in perfect condition. We find it a very satisfactory cable and are using the same construction of rope on our smaller shovels to as good an advantage as the larger rope is giving."

Waterbury Armored Rope is made of the finest quality wire rope, and is covered with a special compound which prevents the rope from becoming loose in service.

Diameter	Weight	Length	Weight	Length	Weight	Length
in.	lb.	ft.	lb.	ft.	lb.	ft.
1/2	1.05	14	1.05	14	1.05	14
3/4	1.10	21	1.10	21	1.10	21
1	1.05	27	1.05	27	1.05	27
1 1/4	1.25	33	1.25	33	1.25	33
1 1/2	1.35	33	1.35	33	1.35	33
1 3/4	1.45	33	1.45	33	1.45	33
2	1.55	33	1.55	33	1.55	33
2 1/2	1.65	33	1.65	33	1.65	33
3	1.75	33	1.75	33	1.75	33
3 1/2	1.85	33	1.85	33	1.85	33
4	1.95	33	1.95	33	1.95	33
4 1/2	2.05	33	2.05	33	2.05	33
5	2.15	33	2.15	33	2.15	33
5 1/2	2.25	33	2.25	33	2.25	33
6	2.35	33	2.35	33	2.35	33
6 1/2	2.45	33	2.45	33	2.45	33
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7 1/2	2.65	33	2.65	33	2.65	33
8	2.75	33	2.75	33	2.75	33
8 1/2	2.85	33	2.85	33	2.85	33
9	2.95	33	2.95	33	2.95	33
9 1/2	3.05	33	3.05	33	3.05	33
10	3.15	33	3.15	33	3.15	33
10 1/2	3.25	33	3.25	33	3.25	33
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42 1/2	9.65	33	9.65	33	9.65	33
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43 1/2	9.85	33	9.85	33	9.85	33
44	9.95	33	9.95	33	9.95	33
44 1/2	10.05	33	10.05	33	10.05	33
45	10.15	33	10.15	33	10.15	33
45 1/2	10.25	33	10.25	33	10.25	33
46	10.35	33	10.35	33	10.35	33
46 1/2	10.45	33	10.45	33	10.45	33
47	10.55	33	10.55	33	10.55	33
47 1/2	10.65	33	10.65	33	10.65	33
48	10.75	33	10.75	33	10.75	33
48 1/2	10.85	33	10.85	33	10.85	33
49	10.95	33	10.95	33	10.95	33
49 1/2	11.05	33	11.05	33	11.05	33
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58 1/2	12.85	33	12.85	33	12.85	33
59	12.95	33	12.95	33	12.95	33
59 1/2	13.05	33	13.05	33	13.05	33
60	13.15	33	13.15	33	13.15	33
60 1/2	13.25	33	13.25	33	13.25	33
61	13.35	33	13.35	33	13.35	33
61 1/2	13.45	33	13.45	33	13.45	33
62	13.55	33	13.55	33	13.55	33
62 1/2	13.65	33	13.65	33	13.65	33
63	13.75	33	13.75	33	13.75	33
63 1/2	13.85	33	13.85	33	13.85	33
64	13.95	33	13.95	33	13.95	33
64 1/2	14.05	33	14.05	33	14.05	33
65	14.15	33	14.15	33	14.15	33
65 1/2	14.25	33	14.25	33	14.25	33
66	14.35	33	14.35	33	14.35	33
66 1/2	14.45	33	14.45	33	14.45	33
67	14.55	33	14.55	33	14.55	33
67 1/2	14.65	33	14.65	33	14.65	33
68	14.75	33	14.75	33	14.75	33
68 1/2	14.85	33	14.85	33	14.85	33
69	14.95	33	14.95	33	14.95	33
69 1/2	15.05	33	15.05	33	15.05	33
70						

\$SLIPPING BELT\$ COST DOLLARS\$

Cling-Surface, at a cost of a few cents per year per belt, saves much money

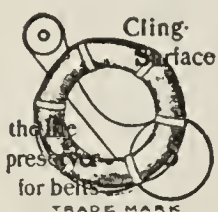
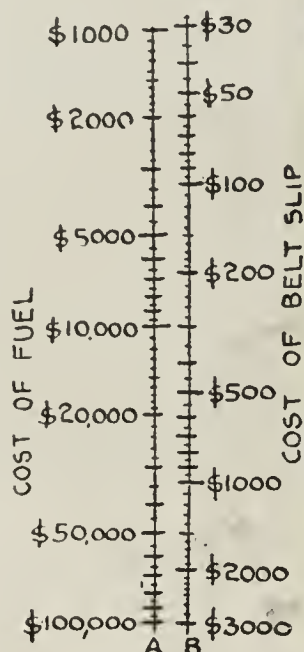
Column B, on this chart, shows how much money CLING-SURFACE will save.

The cost of belt slip is too important a matter to ignore, especially in view of the fact that it can be completely eliminated by CLING-SURFACE treatment.

For over twenty years CLING-SURFACE has been making good on every type of drive—on every variety of belting material under the widest variety of working conditions, from the damp, sloppy paper mill to the baking atmosphere of the power plant.

CLING-SURFACE adds "life" to the belt by permanently lubricating every little fibre. It protects the belt from moisture and wear, adding weight and vigor to the entire fabric. CLING-SURFACE will make your leather or cotton belts or rope waterproof, pliable and wear resisting. It increases the efficiency of even rubber or balata belting. A CLING-SURFACE treated belt will run slack or easy under full load without slipping.

You cannot afford to be without CLING-SURFACE.



Cling-Surface Company

1029 Niagara Street

Buffalo

New York

U. S. A.

and for the first three months of 1920 to \$4,994,845. These were 157 houses, all brick. Practically all the other 493 permits issued were for brick buildings.

A permit has been issued for the erection of the first brick plant located at Vancouver, B. C. Believing that it would be economical to ship the raw material from Clayburn and make the manufactured product at Vancouver, Ceramics Industrial Ltd. is putting up an \$8,000 factory for the manufacture of brick at Industrial Island, Vancouver.

The Brockville Housing Commission, of which W. P. Driscoll is chairman, is arranging to operate the brickyard formerly run by W. H. Wood on Park Street, Brockville, Ont., to manufacture brick which will be used in the construction of 40 or 50 houses to be erected this summer by the Commission. The scarcity of building material has necessitated this move on the part of the Commission which decided to embark on an extended program.

✽ ✽ ✽

Mid-Year Meeting of N. J. Clayworkers to Be at Trenton on June 25

The first official meeting of the Executive Committee of the New Jersey Clay Workers' Association and Eastern Section of the American Ceramic Society since the first of the year was held at the residence of Charles A. Bloomfield, Metuchen, on Saturday, April 10.

There were not so many specific matters to be discussed, but rather to formulate plans for spring and summer activities of the organization. One of the big subjects to be brought up was that of a site for the new ceramic building at Rutgers College, New Brunswick, and different views were expressed in this connection. To make the appropriation of \$100,000 recently secured thru the Legislature available during the present year, it will be necessary to arrange a definite decision in this matter. Professor Brown and others who are giving attention to this important topic hope to decide the question at an early date. It was suggested that the building be placed on an adjoining plot to the present ceramic building at the institution, but as this is quite a distance from the chemical and engineering buildings on the campus, it is held that the new school more properly should be at the latter location.

Another subject to be discussed at the meeting was that of the regular mid-year gathering of the association. It was decided to hold this at Trenton, as heretofore, on Friday, June 25, with morning and afternoon sessions. In all likelihood arrangements will be made to hold the meeting at the Country Club, but this is a matter yet to be decided.

The date of gathering has been selected so as to follow that of the convention of the American Society for Testing Materials, which will be held at the New Monterey Hotel, Asbury Park, N. J., on days previous. With this arrangement there will be no confliction.

At the Trenton meeting it is proposed to have a number of practical papers presented, and to have as many as possible who are "right on the job" be in attendance. It is planned to blend the practical with the technical in just the right measure, so that these men will find that their presence is well worth while.

Those present at the committee meeting included: Abel Hansen, head of the Fords Porcelain Works, Perth Amboy, and president of the association; Charles A. Bloomfield, head of the Bloomfield Clay Co., Metuchen, councilor for the organization; Professor George H. Brown, director, Department of Ceramics, Rutgers College, secretary; Charles W. Crane, head of C. W. Crane & Co., New York; R. H. Minton, General Ceramics Co., Metuchen; D. J. Fisher, Sayre & Fisher, Sayreville; and LeRoy W. Allison, eastern editorial representative, *Brick and Clay Record*.

**CRESCENT
BELT
FASTENERS
MAKE GOOD
BELTS GIVE
BETTER
SERVICE
THEY DO-
AND MORE.**

They insure
Continuous
Production

Write Dept. 11
Crescent Belt
Fastener Co.
381 Fourth Ave.
New York

They save
time, labor
& Belting

(Continued from Page 819)

ing and at the present time, in view of existing needs, should be about 40 per cent. of the total. In other words, during a period of record construction, so far as value is concerned, the building of homes is shown to be discouragingly subnormal.

We have urged the building of homes rather than factories, not that factory buildings are undesirable or that in many cases they are not needed, but the need for homes is a crying one, and one that carries with it more significance than merely a lack of shelter. Everywhere the plea for homes is heard. There is hardly a community of any size that is not short a number of residences and the situation is getting worse instead of better. Little or no progress is being made to overcome the shortage. A canvass of the causes for this tells us that existing high prices of most building materials, in some cases all out of reason, particularly the item of lumber, building trades strikes, unsettled condition of labor where strikes do not happen to be in progress, difficulty of getting materials, transportation tie-up, banks tightening up real estate loans, and so forth, are militating against home building.

Most of these difficulties are of a nature which require local handling.

With regard to car shortage and poor transportation service, when the existing switchmen's strike is settled there may be a ray of hope in the plans of the Federation of Construction Industries to secure some sort of priority for building materials. Franklin T. Miller, of New York, has also suggested that legislation be enacted making real estate mortgages tax exempted. This would encourage the purchase of this paper on the part of large investment interests.

There are, of course, a number of bright spots in the situation, where home construction is going ahead. Housing corporations in various localities are helping tremendously.

The problem would be brought nearer to solution if the materials and labor being consumed in large industrial projects which are unnecessary or which could be postponed until a later date, were diverted to the building of homes.

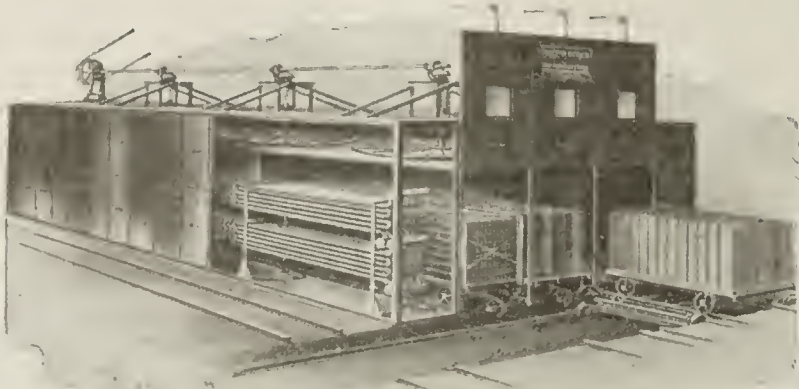
"The S S S Special" Automatic Soft Mud Brick Machine



WE manufacture the most complete line of Soft Mud Brick Machinery in the world and can meet the requirements of any size yard, from the smallest to the largest. Let us quote you on your new machinery.

The Arnold-Creager Co.

New London, Ohio



The policy behind the "Proctor"

Every Proctor Ceramic Dryer is built as though the whole reputation of PROCTOR AND SCHWARTZ, INC. depends on its individual excellence. Every operation, every detail is part of one great plan, which has for its ultimate object the realization of every legitimate economy, the nearest possible approach to perfection in drying the customer's product.

"Proctor"
DRYERS

PROCTOR AND SCHWARTZ, INC.

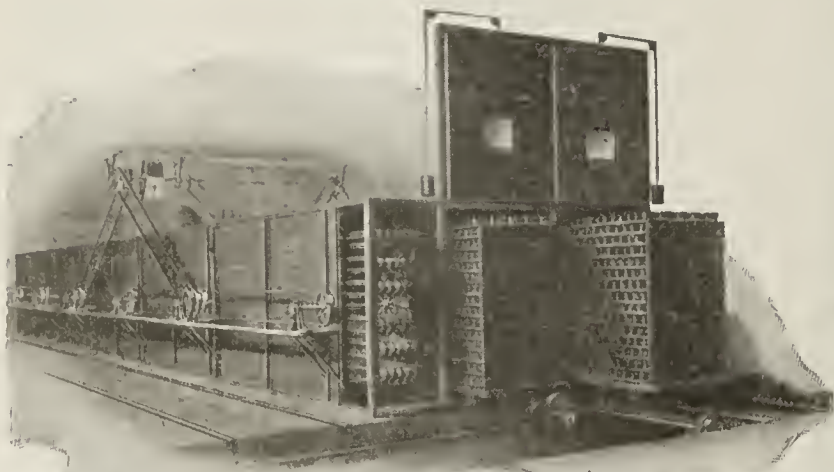
Formerly Phila. Textile Mach. Co.

PHILADELPHIA, PA.

Chicago
Charlotte

New York
Providence

Hamilton, Ont., Can.



QUESTIONS

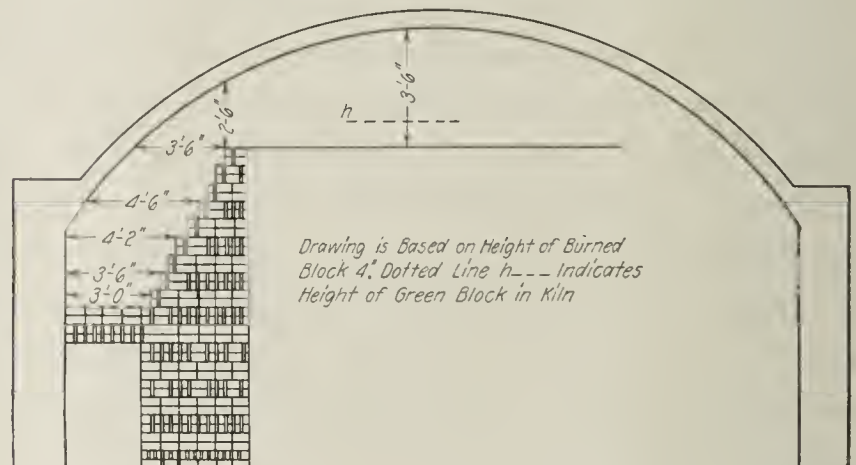
A Two Cent Stamp May Bring You Advice That Will Stop a Waste, Improve Your Ware or Lower Your Production Cost

Address all communications intended for this department to "Editor Questions and Answers," care of "Brick and Clay Record," Chicago.

A Method of Setting Paving Block

937. W. Va.—We enclose herewith a blue print showing the method of setting paving block in a twenty-eight foot down-draft single stack kiln. You will note that distances are shown from top of setting to center of crown, and various distances from side-walls to setting.

Will you kindly refer this scheme of setting to some one familiar with the proper setting of paving block and give us the benefit of any criticism that he may have to offer?



A Manner of Setting Paving Brick in a Round Down-Draft Kiln that Should Be Productive of Good Results.

We have taken up the matter of setting paving brick, according to your drawing, with two prominent men capable of giving a meritable opinion on this subject.

The opinion which has been expressed is that the scheme you have in mind is entirely satisfactory and should give you good and efficient results.

✂ ✂ ✂

How to Watersmoke in Up-Draft Kilns

939. Tennessee—We would like to know the best method of watersmoking brick in an up-draft kiln using coal as a fuel.

The proper method of watersmoking in an up-draft kiln depends a great deal upon the clay used in the brick. Some clays because of their open structure and inherent strength will permit faster watersmoking than other clays that are more plastic and of denser texture.

During this interval of burning, which is one of the most important, you must raise the heat in a kiln not too fast nor too slowly.

During its investigations the Fuel Administration found a number of plants that were losing from two to four days' time because of watersmoking too long. The temperature of the kiln during this period should be brought up as fast as possible to the boiling point of water, which is 212 deg. Fahr., and a strong draft maintained. After bringing the temperature of the kiln up to 200 deg. Fahr. raise it to 300 deg. and then hold the kiln at this point until all the moisture is driven out. Some clays will stand 400 deg. and in most cases 300 deg. is the best temperature to maintain.

a n d ANSWERS

Best Authorities in Every Clay working Branch Are Called Into Consultation—Their Advice is Free to You, Thru These Columns

Should a reply be desired by letter, send a stamped and addressed envelope with your question, and it will be answered promptly.

It is essential that a good draft be had and a good circulation thruout the entire kiln be maintained at this time.

Perhaps the best way to proceed in firing your kiln would be to start with a small quantity of coal and keep a small fire which is strong enough to drive off the moisture. By experimenting and using a thermometer having a range of 400 deg. Fahr. as a guide, you can soon determine a rate of firing that will give you the best results. The time usually required to watersmoke in up-draft kilns is about two days.

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How to Watersmoke With Crude Oil

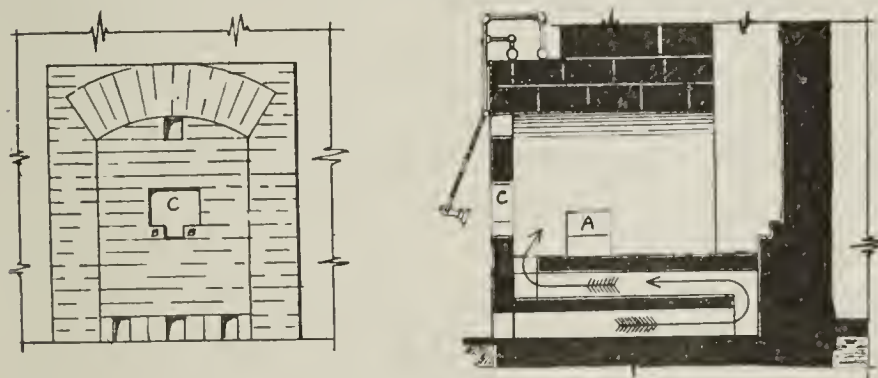
944. *Mississippi—We are building a plant at this place to make dry press brick and expect to burn same with crude oil except to use wood for watersmoking.*

Will you please advise us if you have ever heard of any concern that has watersmoked with crude oil? We have been told that some people have used the oil that way by heating in a coil until a gas was formed.

We would like to be able to watersmoke with oil as it would eliminate more labor and that is what we are trying to do.

A large number of firms watersmoke with crude oil, hence it should in general be possible for you to do it. One method of watersmoking with oil is as follows:

During watersmoking the oil is thrown against the four brick "A" and the bottom. Two side brick "B" are also put close to the burner. These brick get hot and all tend to keep the oil burning. The burner hole "C" is kept open to



Arrangement of a Fire Box for Watersmoking Clay Products With Crude Oil as a Fuel.

admit sufficient air to cool off the gases before entering the kiln. That is, the principal point in watersmoking with oil is to get a hot flame in a small local spot so as to get combustion and then supply enough cold air to cool the gases down before they enter the kiln. The brick "A" are arranged in a V, with the point of the V away from the burners, so the oil is blown inside the two walls and a local hot spot maintained. As the kiln becomes hotter and the heat can be increased the point of the V is gradually opened up and the oil allowed to burn farther and farther back along the bottom of the fire box. When the box is hot enough the brick "A" (flash brick) are removed all together.

Another method of watersmoking is by the use of a drip

Automatic Stove Rooms and Mangles for Clay and Porcelain

Conditioning Equipment
Continuous Automatic Sagger Dryers
and Special Equipment
For Drying Pottery, Electric Porcelain,
Abrasive Products and
General Ware



The paramount interest of our organization is to assist the manufacturers toward increased production, with better ware, at a lower cost.

Our specially trained and thoroughly experienced engineers are in the best position to render you a service of marked strength, which you will appreciate.

Established success is our equipment—there are no uncertainties—nor experiments—our rigid guarantees are established—a successful dryer for you, or no money for us.



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WITH YOU

Ceramic Equipment Co.
TRENTON, NEW JERSEY

Proctor
DRYERS

BUCYRUS



Put A BUCYRUS In Your Plant

You can cut your costs and increase your output—you can improve the quality of your brick by obtaining a more thorough mixture from the bottom to the top of the bank.

The rugged construction and surplus power of the Bucyrus permits it to work under the most severe conditions with a high steady output.

LET OUR REPRESENTATIVE CONSULT WITH YOU

All sizes of revolving and standard railroad type shovels and dragline excavators.

Send for Bulletin B

BUCYRUS COMPANY

SOUTH MILWAUKEE, WIS.

New York,	Birmingham,	Denver,
Cleveland,	Minneapolis,	Portland, Ore.
San Francisco,	Salt Lake City	
London, England		

208



burner. This, however, is not altogether satisfactory unless the ware must be dried very slowly and provided it can be smoked during this early stage up to 250 deg. C. The drip burners are arranged so that the oil drips down on to a thin metal plate and burns without being atomized. The heat generated assists in this combustion and it is sometimes aided by a slight pressure of air playing on it. The use of either method sometimes requires the firing of alternate boxes. The drip method is not as bad as it would at first appear to be and has the advantage of saving some air and considerable attention. The number of flash brick that are destroyed in a year's time in a large plant is also an item and they must be removed from the fire box each burn.

✕ ✕ ✕

Chairman Clark, of the Interstate Commerce Commission, in a letter to Chairman Cummins, of the Senate Interstate Commerce Committee, April 10, approved the bill of Senator Frelinghuysen proposing differential freight rates on coal to stimulate the production in the summer-time.

✕ ✕ ✕

Joseph Szebenyel states in the New York "Times" of March 21 that the wholesale re-emigration of aliens in America began last April and is continuing in ever growing numbers. Steamship ticket agents agree that 6,000 are leaving for Europe weekly, altho emigration is confined to Italians and Belgians.

Statement of the Ownership, Management, Circulation, Etc., Required by the Act of Congress of August 24, 1912

of "Brick and Clay Record" published Bi-Weekly at
Chicago, Ill. for April 1, 1920.
State of Illinois, SS.
County of Cook

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Edwin G. Zorn, who, having been duly sworn according to law, deposes and says that he is the Editor of the "Brick and Clay Record" and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher: Kenfield-Leach Company.....Chicago, Ill.
Editor: Edwin G. Zorn.....Chicago, Ill.
Managing Editor.....None
General Manager: H. H. Rosenberg.....Chicago, Ill.
Business Manager: David B. Gibson.....Chicago, Ill.

2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent. or more of the total amount of stock.)

F. B. Cozzens.....610 Federal St., Chicago, Ill.
H. H. Rosenberg.....610 Federal St., Chicago, Ill.
S. J. Leach.....610 Federal St., Chicago, Ill.
L. W. James.....610 Federal St., Chicago, Ill.
F. J. Sauer.....610 Federal St., Chicago, Ill.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent., or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state).....None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds or other securities than as so stated by him.

Edwin G. Zorn.

(Signature of editor, publisher, business manager, or owner.)
Sworn to and subscribed before me this 25th day of March, 1920.

Matthew Beaton, Jr.

My commission expires Nov. 23, 1923.

MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories
and Detailed Announcements that Our Ad-
vertisers Believe Will Interest Our Readers

To Their New Home

Announcement of the removal of the business of the Schurs Oil Burner Co., to their new building at 5330 and 5332 Santa Fe Avenue, Los Angeles, Cal., will be of interest to the many users thruout the country of this popular line of oil burners.

The business of this company, due to the universal satisfaction obtained by users of the Schurs Burners, has grown to such proportions that larger quarters became necessary, hence the removal from its former location on North Main Street.

After twenty-seven years devoted to the manufacture of these burners, John Schurs will now give more of his time to the perfection of several new types of burners, as well as assuming the position of consulting engineer for the company. Mr. Schurs is recognized as an authority on all matters pertaining to the oil burning industry.

The actual business management of the company will be under the supervision of B. C. Berg, who advises that with their more commodious quarters and additional new equipment the output of the plant will be greatly increased.

* * *

The Federal One-Ton

These are strenuous days in the Motor Truck manufacturing business—labor conditions in this business, as in others, have been unsettled and costs therein rising; materials have been scarce and prices of same mounting. But, the demand has been so insistent that Federal found it necessary to speed up in designing and construction of the new Federal one-ton series.

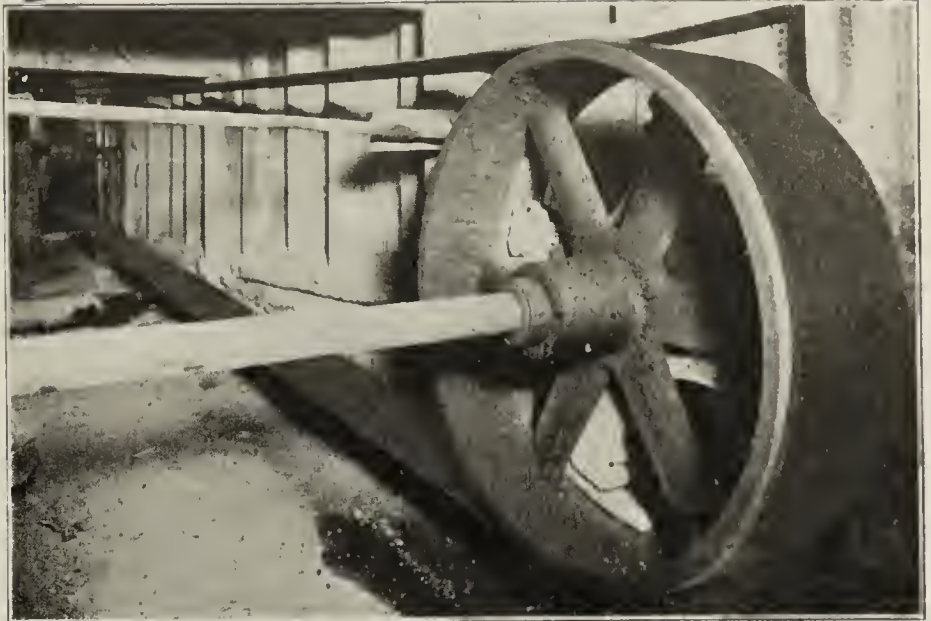
The one-ton field is the most overcrowded of any capacity truck today, overcrowded as to models and as to prices. Too much stress, however, has been placed upon low prices, excessive speed and extremely light weight construction.

The new Federal one-ton, shown for the first time in New York and Chicago National Truck Shows, is built strictly in accordance with Federal standards of real hard duty service. The essential features worked out in the new one-ton Federal therefore, are: a governor control speed of 25 miles per hour; Pneumatic Cord tires—pressed steel frames—disc steel wheels—heavy support radius rods—electrical lighting equipment lamps on swivels which can be turned to point where light is needed most—special hard service battery and generator—thoroly proven power tire pump—steel seat and dash.

The officials of this company are certain from the demand created before this truck was put on the market, that it has a place of its own in motor transportation. It has all the sturdy lines of the larger Federals with the additional features of speed. It is a heavy duty truck for light loads.



Federal One-Ton Truck.



Uniformity, Flexibility and Strength are the inseparable features of STANLEY SOLID WOVEN COTTON BELTING.

Uniformity means steady drive; flexibility, less slippage and more power transmitted with less tension. Stanley has more strength because it is solid woven, and therefore has no plies or laps to come apart.

STANLEY Belting withstands heat, oil and acids better than leather or rubber.

It will cost you less than some belts, will wear better, and last longer.

If you want to eliminate your belting troubles, and want to be prepared for the increasing demands for all kinds of clay products, specify STANLEY SOLID WOVEN COTTON BELTING.

Write for prices today.

Stanley Belting Corporation

**34 S. Clinton Street
CHICAGO, ILL.**



THWING PYROMETERS help to stop the Losses from Inexperience and Inattention of furnace or kiln attendants

The pyrometer system gives the furnace attendant himself a means of knowing exactly what he is doing and at the same time gives the superintendent a permanent written record of the heat conditions in every furnace and at every stage of the process.

Knowledge that his work is accurately checked makes a careless man careful if he wishes to hold his job—and with the conscientious man the fact that the merit of his work is confirmed by the pyrometer records is a powerful stimulus to make a better showing from day to day.

Thwing Pyrometers can be installed upon terms that make the investment pay for itself in short time and with absolute certainty of satisfaction.

Tell us your requirements so we can send interesting literature and quote prices.

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not a cut-down passenger-designed chassis with heavier members and springs. It is not a makeshift in any sense of the word; but it is backed by a thoughtful and careful design with the main purpose of giving successful and continuous service.

✕ ✕ ✕

Due to the rapid growth of Barber-Greene Company, Aurora, Ill., and the enormous demand arising for Barber-Greene Self-Feeding Bucket Loaders and Barber-Greene Standardized Belt Conveyors, they have found it necessary to make certain additions and changes in their selling organization. They are now represented in:

St. Louis by R. E. Foulke, 404 3rd National Bank Bldg.

Pittsburgh by J. A. Gurney, 605-606 Arrott Bldg.

Philadelphia by F. S. Sawyer, 1010 Penn Square Bldg.

Indianapolis by W. T. MacDonald, 305 Merchants Bank Bldg.

These are direct Barber-Greene branches and the representatives are experienced engineers, well qualified to furnish true service and engineering advice to all individuals and firms having material handling problems.

✕ ✕ ✕

J. C. Steele & Sons Co., Statesville, N. C., have been so overwhelmed with business in their territory that they are rushing to completion with all possible speed quite a large addition to their present factory. This will give them an opportunity to very materially increase the output of their clay working machinery so they will be better able to take care of their old and new customers in the future.

This company reports that it has had during recent months almost a constant stream of visitors from all over the South and there is every indication that the southern territory is fast becoming one of the most important clayworking centers of America.

✕ ✕ ✕

Rapidly nearing completion, the new independent power plant of the Conneaut Shovel Co., of Conneaut, Ohio, is expected to be in full operation within the next thirty days. With equipment modern in every respect, this plant will develop 1,000 horsepower. Although ground was broken only last October, there is only the cornice and part of the stack yet to be completed.

This improvement will add materially to the ability of this company to furnish the now famous Conneaut Hand Shovels, which have become such a real necessity on hundreds of clay plants.

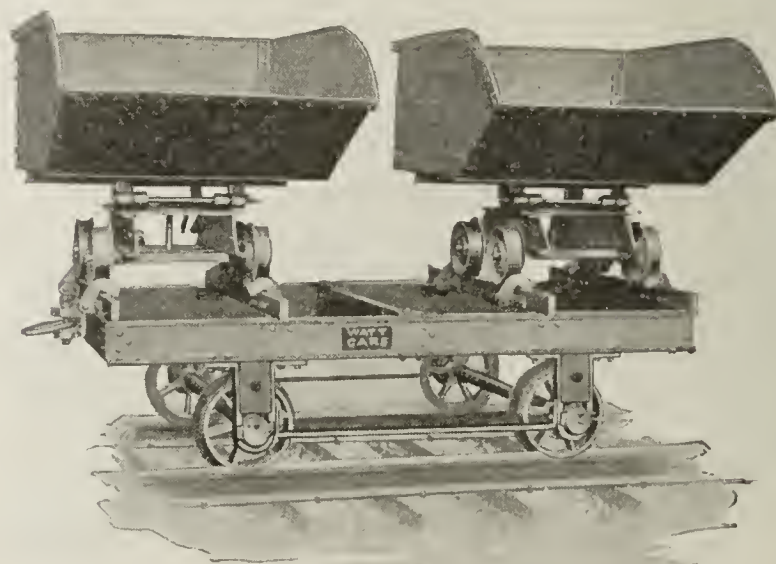
✕ ✕ ✕

R. E. Griffith, formerly connected with the American Refractories Co., New York, has become refractories sales manager for E. J. Lavino & Co., Philadelphia, Pa., with headquarters in that city.

✕ ✕ ✕

Two Trips in One

The accompanying illustration shows a double transfer car, recently built by the Watt Mining Car Wheel Company at Barnesville, Ohio. It is to illustrate one of the many types of hauling devices they are called upon to design. One of the many desirable points of this construction is that it makes two trips in one, that is, by having the two cars on the transfer. This transfer is also used for hauling of dryer cars.



Double Transfer Car Built by Watt Mining Car Wheel Co.

Alsey Brick & Tile Co.....	942
American Clay Machinery Company	957-958
American Dressler Tunnel Kilns, Inc.....	944
Armstrong Cork and Insulation Co.	898
Atlas Powder Co.....	973
Baird Mach. & Mfg. Co.	951
Ball Engine Co.....	943
Barber-Greene Co.....	941
Bonnot Co.....	888
Bristol Co.....	939
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Buckeye Traction Ditcher Co.	965
Bucyrus Co.	948
Burton Engineering & Mach. Co.	949
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Chambers Bros. Co.....	893
Chase Fdry. & Mfg. Co.....	960
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Des Moines Glove Mfg. Co.	968
Diamond T Motor Car Co.....	Back Cover
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Dodge Sales & Engineering Co.	903
Dover Fire Brick Co.....	938
Duplex Motor Truck Co.....	978
Eagle Iron Works.....	940
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Easton Car & Construction Co.	955
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Flint River Brick Co.....	948
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Harrington & King Perforating Co.	945

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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups," to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To

decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

A Practical Plan for Carrying on VITAL Research Work in the Clay Industry

THE QUESTION has been asked, "Has any one, be he manufacturer of clay products, a manufacturer of clay working machinery, or the editor or publisher of a trade journal, . . . any plan by which this research work can be carried on except thru the organization purely for educational purposes."

Finding ourselves in the last of the three classes so addressed, we venture to say that we have a plan—one that has already been discussed by some of the best brains in the clayworking industry.

First, let us say, for the sake of clarity, that "this research work" referred to is that which has been undertaken by the Committee on Technical Investigation of the National Brick Manufacturers' Association, a committee that has had for many years no less a guiding genius than Albert V. Bleininger.

Mr. Bleininger made a report for his committee at the thirty-fourth annual meeting of the National Brick Manufacturers' Association held at Columbus, February 18 to 20 and among other things said:

"The committee has not been active during the past year owing to the fact that sufficient funds for conducting research work have not been available. The cost of carrying on technical investigations has increased like everything else. While for years the amount of \$250 per annum has sufficed to secure half the time of an assistant at the Ohio State University, this is utterly impossible now since such service cannot be secured for anything like this amount, and the cost of apparatus and supplies has increased in proportion."

Just think of it! Two hundred and fifty dollars per year for research work on brick and other clay products.

How any clay products manufacturer can sit still and listen to such a state-

ment, or read it, without being filled with shame, disgust and disappointment, is more than we can fathom.

The clay products manufacturing industry is second from the top of the list of American mineral industries according to value of output; the clayworking plants of the United States are the third largest consumers of coal; among all manufacturing industries clay products ranks fourth, while the total investment in the business is about \$375,000,000.

Yet, this giant industry is obliged to confess that to date it has spent thru a committee which is supposed to represent all of the branches of the industry in technical investigation, **the magnanimous sum of \$250 per annum.**

If it were not for the fact that this situation is most lamentable, it would be the biggest joke in industrial America. It is certainly high time that the question "Has any one a plan" was being asked.

A few years ago when the now almost forgotten Paving Brick Institute was in operation, some of the leading lights in the practical manufacture of brick came together every three months to counsel one with the other about manufacturing problems. Men like Spencer M. Duty, now president of the National Paving Brick Manufacturers' Association; Geo. D. Orr, formerly with the Purington Paving Brick Co., Galesburg, Ill.; R. T. Stull, past president of the American Ceramic Society, now with the United States Bureau of Mines at Columbus, Ohio; R. G. Kanengeiser, formerly with the Bessemer Limestone Co., Bessemer, Pa.; O. W. Renkert, Metropolitan Paving Brick Co. Canton Ohio, and many others, saw the great need of REAL technical investigation.

Powdered coal as a ceramic fuel was just coming into prominence at that

time. The "boys" realized, and so stated that an investigation or research which would give them the REAL FACTS about powdered coal, so far as the clay products manufacturing industry was concerned, WOULD COST NOT LESS THAN \$40,000. No single manufacturer, said they, could afford to undertake such a task.

Mr. Bleininger at the Columbus meeting above mentioned, stated:

"It would seem that a comprehensive survey should be made of the entire field (of burning), involving the economic use of fuel, kiln construction and the firing process itself. It should be the object of such a report to consider present conditions, the economies which are possible with the periodic kiln and the kiln systems which are most promising for the future expansion of the industry. We are still in ignorance concerning a number of fundamental questions involved, such as the actual amount of heat required in firing clay, heat transmission, heat losses, and the maximum speed at which clay products can be heated without injury. **These are vital problems which are worthy of being considered on a scale commensurate with their importance.**"

To burning, we might add the drying procedure, the mechanical handling of green clay wares, plant layout, the location of machinery, and so forth. All of these subjects are worthy of the most exhaustive research. The price of labor and its present scarcity, the cost of supplies, of coal, and all of the other factors that enter into the manufacture of a clay product DEMAND that the industry employ the GREATEST ECONOMY AND EFFICIENCY in the manufacture of its ware.

The importance of this work is admitted on all sides. The question is how to get at it and finance it.

A plan is suggested in the present handling of the freight rate case at Washington. The Hollow Building Tile Association, the American Face Brick Association and the National Paving Brick Manufacturers' Association have joined hands in this fight. They saw some time ago that IN UNITY THERE IS STRENGTH. They were able to command the means to finance the procedure and proceeded to employ THE

BEST LEGAL TALENT AVAILABLE. Thousands of dollars have already been spent to secure an equitable readjustment of freight rates on clay products with every chance of these efforts being crowned with success.

The way to do a thing is to do it!

The way to get the research work done that needs to be accomplished is for the Common Brick Manufacturers' Association of America, the American Face Brick Association, the National Paving Brick Manufacturers' Association, the Hollow Building Tile Association, the Clay Products Association, and any other association that wishes to join, to get together in A BIG CENTRAL COMMITTEE, appropriate the necessary money, call for an advisory or perhaps supervisory committee of the American Ceramic Society, and get busy and find out what the industry needs to know about the numerous methods, processes and devices which are constantly being offered to clay products manufacturers for their use and adoption. These are common problems.

It is time we cast out the moss-grown idea that such-and-such an organization is to do this work and that no one else dare violate the sanctity of its privilege.

Real research costs money. The only organizations able to supply the necessary wherewithal, so far as we can see, are those above mentioned.

It is up to some man, be he big or little, to get these various associations together on such a program. We will not always be able to find two takers for every brick or tile we make. We cannot always ride on the crest of the wave. When the long readjustment pull downward starts in, it will be a mighty handy thing to have one's house in order for a time of keen, and perhaps bitter, competition.

“BUILD HOMES FIRST”

Startling Action by the London County Council and “Drive” Just Launched in Cleveland, Speak Significantly of the World’s Greatest Need and Steps Being Taken to Supply It

SPECIAL CABLE to “The CHICAGO TRIBUNE”

LONDON, April 22.—A crisis in the London building trades has been caused by the action of the London county council in stopping all building, except residence, under powers granted by the health ministry to overcome the housing shortage. A number of large business buildings were stopped, including extensions on the dry goods stores of Selfridge’s, Harrod’s, Liberty’s and other firms. Also the Bush Terminal Building in the Strand and a number of office buildings in the same neighborhood.

Leading business men allege not more than 40 per cent. of the men displaced by this stoppage can be used in house building. It is declared unsafe to start any building costing more than \$4,000.

THIS IS just the news we have been expecting!

England, being in the vanguard of western nations so far as the approach of dissatisfaction, unrest and bolshevism are concerned, has seen the danger and is preparing to meet it.

Living conditions is the stone over which anarchy will stumble and be broken, or it will grind government and order in powder. Good living conditions are conducive to satisfaction and contentment. On the other hand, lack of homes, rent profiteering, cramped quarters and unsanitary dwellings, are a good breeding ground for the germ of class hate.

We have been urging for the past several weeks in the columns of this magazine the construction of homes rather than factories and other industrial structures—not that industrial expansion is undesirable, but that in view of the fact that America must build in the neighborhood of three million homes during the next five years to catch up with lost production during the war, factory buildings should wait until a more auspicious time.

It has been pointed out that the present excess profits tax, a relic of war days, is making it attractive for prosperous corporations to put their excess profits into new buildings, extensions and additions thereby getting “something for nothing” in the pure sense of the term. This procedure, of course, is not prompted by the highest idealism, nor perhaps true sense of patriotism, but it is human nature and this is a quantity with which we must always reckon.

Conditions at the present time in the money market may make any further promotion of the “build homes, not factories” idea unnecessary. Credit is tightening, banks are getting fearfully stingy, more and more capital is being tied up in stocks, the situation has been aggravated by the railroad yardmen’s strike, that many concerns are abandoning their plans for new building additions and extensions. This does not mean that this construction will not go on at a later date. It does, however, indicate that for the present much of this class of work will be held in abeyance.

This will release material and labor for the necessary construction of homes.

This type of building has been steadily dwindling. Residence construction comprised only *nineteen per cent.* of the total amount of building during the first quarter of 1920, which amounted to the enormous figure of \$780,408,000. Of this large sum thirty-four per cent. represented industrial structures, or almost twice as much as residences. Men who have studied building figures for years say that homes should account for about thirty per cent. of the total amount of building, and at the present time in view of the existing shortage, about forty per cent. of the total amount of construction should be residence type.

The reason more homes are not being built is because the average prospective home builder is being frightened off by so-called “high prices.” If he is not scared by this bugaboo, or if he is being driven by grim necessity, he goes with a brave heart to his bank where the cashier tells him that loaning money on mortgages “is simply not being done.”

This stops the much ambitious citizen because nearly all residence construction is financed in part, at least, thru the instrumentality of the mortgage.

But granted, for the sake of argument, that he does not need to borrow money to build, he is confronted by the fact that while he might get his foundation in he is not at all sure about the roof. If the bricklayers don’t strike the carpenters may. If for some unforeseen reason these, as well as other artisans employed in the erection of a building, seem to work harmoniously together and are satisfied with their \$1.25 an hour, the railroads are likely to throw a monkey wrench in the machinery and fail to deliver the material to the building supply dealer who in turn cannot produce the goods for the builder. The gamble is too much for even the most stout hearted and so they decide to “grin and bear it.”

The situation is one in which the ordinary course of events fails to produce the desired result, and so outside help is needed. Thus, in London a governmental body interposes its authority to get action along the line of home building.

Cleveland has started a “drive” to build five thousand additional homes. This campaign has for its slogan the significant phrase “Build Homes FIRST.” The real estate board, banks, real estate dealers, in fact everyone having any connection whatever in the building industry are cooperating and working together on this plan. Committees have been appointed and are working daily on the project. Conservative estimates show that Cleveland is approximately 13,500 homes short, therefore this “drive” has been started. Further details are contained on page 853 of the April 20 issue of *Brick and Clay Record*.

Chicago has found it necessary to organize a Chicago Housing Association which is now engaged in building *ten thousand homes of BRICK*. This will relieve the shortage considerably in America’s second city.

“Build Homes FIRST” campaigns should be started in every congested city in the United States. Such a movement is of prime importance because of the economic considerations involved. A man with a hearth is a poor hand to throw a bomb or to wield a torch.

At Last;—It Has Appeared!

The impossible has happened. Had anyone told you a year or two ago that common brick would be nationally advertised in widely distributed mediums, both popular and business, you would have doubted his soundness of mind. However, the first gun in the educational and promotional campaign on behalf of common brick, has been fired. The May issue of "The Nation's Business" carries, on page 6, full page copy which is the initial appearance of the advertising program being conducted by the Common Brick Manufacturers' Association of America.

Altho common brick has been advertised locally in newspapers in the past, nothing has ever been done before in the nature of a nation wide campaign to tell everybody of the advantages in building with this worthy product. From now on, a large number of different national magazines will be carrying space taken by the Common Brick Manufacturers' Association.

The advertisement in "The Nation's Business", is very impressive and the copy is built up around the story of the 10,000 houses which are being built by the Chicago Housing Corporation and which are being constructed of common brick as the basic building material. The advertisement carries a photograph of several of the houses built by the above company and also calls attention to several booklets which the prospective builder and contractor may obtain by writing to the association.

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Face Brick Division Hears Dr. Mars

A good attendance was had at the meeting of the Illinois-Indiana Division of the American Face Brick Association which was held on Wednesday morning, April 21, at the same time that the Illinois Clay Manufacturers' Association convention was in progress at the La Salle Hotel, Chicago.

Among the things discussed was the effect of the recent increase in coal prices. It seemed that the average raise to the manufacturers present was from forty-five to sixty cents per ton.

The fire experienced by the Hydraulic-Press Brick Co. at their Collinsville plant recently, stirred up a discussion on fire prevention in clay plants. Mr. Hervey of the Hydraulic-Press Brick Co. emphasized the need for more study and attention to fire prevention measures and described a system which he installed on the Hydraulic-Press Brick Co.'s plant at Brazil, Ind.

Dr. Mars addressed the meeting on the work undertaken by the national association in educating the public to the use of face brick, and urged all manufacturers to pay particular attention to service. Even tho a customer's wants cannot be satisfied his inquiries should be taken care of in a most courteous manner. Manufacturers should make every effort to build up good will tho under present conditions this may not seem so necessary.

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A Way to Meet the Shortage of Labor

As an immigrant may be of great value to the country as an unskilled laborer, regardless of his inability to read, it was urged by the National Immigration Conference which was held in New York City recently, that the present literacy test in our immigration laws be eliminated. This would open the gates to unskilled workers in agriculture and industry, construction, railroads and domestic service, where there is a great need for help at this time.

At the above conference were gathered many leaders in finance, industry and agriculture, together with labor men and

representatives of foreign born groups in America. The meeting was called by the Inter-racial Council.

Our present labor shortage is estimated at between four million and five million. This can be relieved by a policy of admitting immigrants without book learning but of good character, sound body and mind and the old world habits of frugality and industry.

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Give Farewell Dinner to Bleininger

The Pittsburgh Section of the American Ceramic Society, Pittsburgh, Pa., held its regular spring meeting on April 20, with sessions in the auditorium of the Chamber of Commerce Building. C. R. Peregrine, chairman of the section, presided. Among those making addresses were D. H. Fuller and P. B. Foote, United States Bureau of Mines; R. M. Howe, Mellon Institute; and Professor H. S. Hower of the Carnegie Institute of Technology. A farewell dinner was given at night, in the private dining room in the building, to A. V. Bleininger, who will be located at Washington after May 1. Mr. Bleininger has been stationed at the local Bureau of Mines for some time past. E. W. Tillotson of the Mellon Institute presided at the dinner.

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A Need for Advisory Committees

Secretary Alexander said in an address before the convention of the Chamber of Commerce of the United States, at Atlantic City, April 27: "During the war there were service committees appointed by different industries to advise the government. The industrial and commercial problems of the country did not stop with the armistice. In some respects today there are more threatening clouds upon our commercial horizon as an industrial and commercial people than during hostilities. I should like to see these advisory committees revived or new ones appointed to acquaint the Department of Commerce and its secretary with the needs of the business public and to advise in the solution of their problems."

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Buff and Grey Brick Firm Changes Hands

Announcement has just been made of the change in ownership of the brick manufacturing plant of the Kittanning Face Brick Co., Inc., located at Freidenheim, Pa., on the Pittsburgh & Shawmut Railroad directly across from Templeton, Pa.

The Kittanning Face Brick Co., Inc., was a New York corporation and the controlling interest in the stock of the company was owned by New York parties, among them Edward H. Cranwell, 841 Broadway, New York City, who had been president of the company since 1916.

During February and March of this year, all of the stock of this concern was acquired by George W. Reese, of Kittanning, and associates in Pittsburgh. The resignation of Mr. Cranwell and all of the officers and directors of the company was accomplished and a new board appointed by Mr. Reese.

In view of the fact that the plant of the company was located in Pennsylvania, it was determined to dissolve the Kittanning Face Brick Co., Inc., the New York corporation, and organize a Pennsylvania corporation to take over the property and assets of the old concern and this has been done. The application for the dissolution of the New York company is now in the hands of the secretary of the state of New York. On March 29 a charter was granted at Harrisburg to the new company under the name of Kittanning Brick Co. This firm will have an authorized capital of \$375,000 and has acquired all of the assets of the New York corporation.

The plant at Freidenheim has been completely overhauled

and many improvements installed and is already producing brick. It is expected that a daily production of fifty thousand brick will be obtained within the month of May.

The board of directors of the new establishment are: George W. Reese, Woodward P. Brown, William Reese, all of Kittanning, and A. Rex Flinn and Simon Patterson, of Pittsburgh. These men with J. N. Davidson, president of the Second National Bank of Allegheny, are the owners of all of the outstanding stock of the company.

George W. Reese has been elected president and general manager of the company and will maintain an office in Kittanning and Pittsburgh. Lawrence B. Peart, of Kittanning, will be superintendent of the plant.

* * *

How to Assure Credit

Homer L. Ferguson, president of the Chamber of Commerce of the United States, at the eighth annual convention at Atlantic City, April 27, said: "Large constructive work must be done before credit of railroads is assured and transportation rendered ample for our pressing and growing needs. . . . The lack of men, particularly for maintenance of way work, is serious, and can only be provided by transfer from less essential industries or by immigration. The outstanding requirement today in business organizations is that business men should be led in greater numbers to take up public work, bringing fresh viewpoints and new energy to the work. More than once during the past year various agencies of the government have asked us to select representatives of business in industrial and financial conferences."

* * *

Sub-Committees to Aid Material Movement

Need for immediate promotion of the work as outlined for the Cleveland, Ohio, regional district of the National Federation of Construction Industries was emphasized, in the opinion of members present at the Hotel Cleveland recently to organize an advisory committee, by the statement of W. T. Rossiter, general manager, the Cleveland Builders' Supply and Brick Co., that conditions in the building supply and its allied industries are worse today than they were at any time during the war. Mr. Rossiter explained that while restrictions were placed upon the building industry during the war, members of the supply, brick, tile and other building materials trades knew about where they were at. Today, he explained, conditions affecting the production of brick, tile and other clay building materials, such as lack of fuel and cars to transport raw materials, and labor have become so acute that the supply is far below the demand as is experienced at present. Furthermore there is no prospect of the supply reaching the demand that will be inspired by the big housing program outlined for the Cleveland district alone.

It is to alleviate this situation that the meeting for the regional organization in the Cleveland district has been called. The program of organization will be under the direction of Charles F. Lang, president of the Lakewood Engineering Co. Meanwhile individual members of the brick industry here are being apprised of the importance of joining the movement, together with representatives of every other branch of building activity. At the next organization meeting, to be held May 3, it is expected a strong local organization will have its inception.

Three sub-committees have been appointed. Labor problems will be under the direction of a group headed by Utilities Director Farrel; delivery of materials under direction of the committee headed by Mr. Rossiter; finance will be cared for by the committee of which F. H. Goff, president, the Cleveland Trust Co., is the head. The work of these

groups, for the present, will be directed toward speeding the completion of housing already started, and those contemplated at this time. It is claimed by city officials that delays of either labor or material or financing has held back the completion of 2,000 dwellings.

The big work of the regional association of the federation that of obtaining priority for building materials, labor connected with construction, and money to be made available for this work, will come later when national, state and municipal legislation, railroads and other factors upon which the proper movement and consumption of these depend, will be apprised in concrete form of the true construction situation.

Significance of immediate action to this end is pointed out by Mr. Rossiter, in that eleven brick and tile kilns of this concern will have to close shortly unless more coal is received immediately. The interrupted freight movement, due to the strike of operatives in Cleveland railroad yards, is one of the contributing factors to a most acute building material situation, he states.

* * *

To Waive Liens to Encourage Building

The executive committee of the Ohio Building Association League was called to meet in Columbus recently to discuss matters concerning home building in the various parts of the state. Reports showed that housing conditions in practically every city and large town in Ohio are acute and that some heroic measures will have to be taken to relieve the stress. It was reported that because of increased rents hundreds of small depositors are starting accounts with the intention of building at a later date. Meeting with the building and loan people were representatives of the National Retail Lumbermen's Association, who expressed a willingness to cooperate in order to relieve the housing situation. One of the subjects discussed was the question of having lumbermen and in fact all material men waive their protests which have always been made against the priority of building and loan association liens. The lumbermen are working to secure the cooperation of other material men in waiving this protest in order to encourage loaning for home construction. It was urged that everyone should encourage the loaning of money for home building rather than for factory or larger buildings construction.

* * *

Tax on All Sales to Raise Bonus Money?

Under agreement tentatively reached April 13 by a House Ways and Means sub-committee, a cash bonus of \$1 a day for each day's service would be given to approximately 3,000,000 of enlisted personnel serving in the war. Agreement also proposes to recommend tax of one-half of one per cent. on all sales to raise the money.

It has been announced from Ottawa on April 10 that a delegation representing six associations of war veterans has presented a petition to Acting Premier Foster for a bonus of \$2,000 for every man who served in France, \$1,500 for service in England and \$1,000 for service in Canada.

* * *

New Agreement Reached

It has been announced that representatives of bituminous coal operators and miners in Central Competitive District, who have been in conference in Philadelphia, have come to an agreement on the new wage scale which will cover a period of two years. The agreement will date from April 1, 1920, and will expire March 31, 1922. Miners get a 27 per cent. advance, machine loaders an increase of 34 per cent. and day men an increase of \$1 a day.

From PLAIN COMMONS to "DIXIE TEXTURE"

How a Little Perseverance and Artistic Taste Developed a Line of Face Brick Made of an Assortment of Beautiful Colors and Textures from the Same Brick Formerly Sold as Commons

IT HAS always been the case that face brick have been shipped from the North and West into the South, but very seldom from the South into the North or West. Of course, this is only natural under the conditions that exist. The northern brick states, such as Pennsylvania, Ohio, Indiana and Illinois, have always produced a quantity of face brick far in excess of their requirements; hence, except it be that a southern plant had a raw material which developed into a product of different type and texture than that made farther north, there was no need for introducing southern brick into the northern states. However, the range of clays in the North has always been wide enough to suit the tastes of even the most particular architect and builder.

Tradition has changed, however, and we now find southern plants supplying to the North, distinctive, new types of face brick. One of these plants is the Sumter Brick Works located at Sumter, S. C. This plant has accomplished what seemed to be improbable—shipping brick not only into the heart of the face brick industry in this country, but to the New York and New England markets as well.

The history of the Sumter Brick Works is interesting. For a great many years it was nothing but a small common brick plant, but in 1901, Irving A. Ryttenberg, who is now president of the concern, left New York City to return to his old home in Sumter to start in the brick business in the employ of his uncle who then owned the plant. In 1906 the owner died and the plant was purchased on credit by Mr. Ryttenberg. After struggling along by himself for a number of

ously offered to the public that it was a difficult proposition to sell any of the brick. However, at this point Mr. Ryttenberg's previous training as a salesman was of advantage.

Just when a good line had been developed and things were



Housing for Gas Producers and Elevator for Hoisting Coal to Firing Platforms.

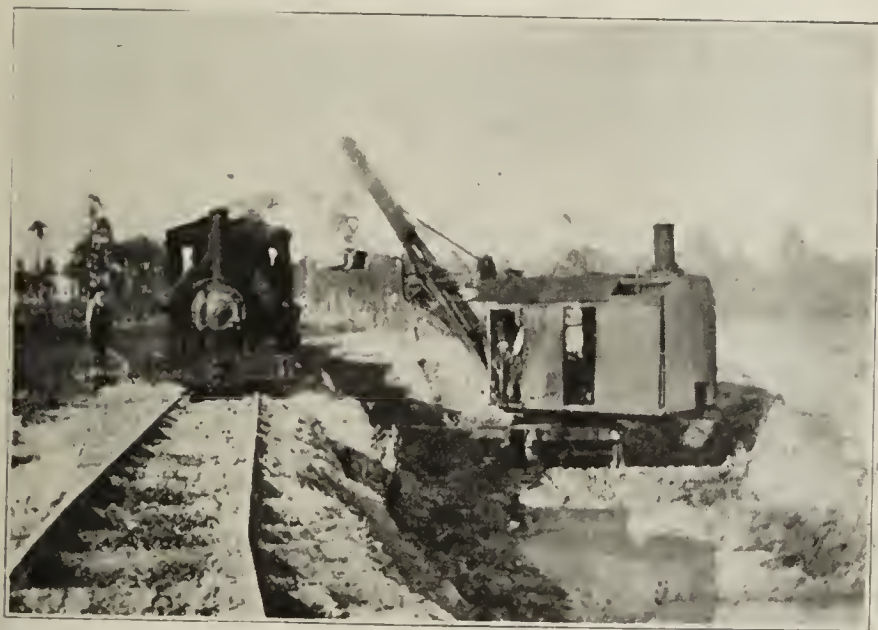
going well, America's entry into the war put a stop to all face brick business and they had to shut down the plant for a year. In the spring of 1919 they determined to make a big plunge and gave up the common brick business altogether for the purpose of developing a face brick business. Thru perseverance, a very beautiful range of colors was developed and the term "Dixie Texture" was given to the brick.

The manufacturing processes in use on the plant of the Sumter Brick Works are interesting because of the number of details that are unlike the ordinary methods of face brick manufacture.

The raw clay is won from a surface deposit with the aid of a steam shovel with a boom of extra length. The clay is a very peculiar one in that it is said to be the only clay on record (other than a fire clay) that requires a temperature of 2,600 deg. Fahr. or higher, to mature it. Furthermore, this clay expands so much in burning that a specially designed kiln has been built which uses double sixty-pound rails in reinforced concrete for buckstays, tied with one and one-quarter inch rods.

The burning of this brick formerly was a long and tedious process, but with the use of producer gas it has been possible to facilitate the burning to a marked degree. For instance, it formerly took from ten to twelve and sometimes thirteen days to burn this peculiar clay with direct fire. Four days of this time was required for watersmoking. This was necessary so as not to choke the kiln or crack the brick.

A short time ago the Underwood gas producer system was installed on this plant and the burning time was reduced con-

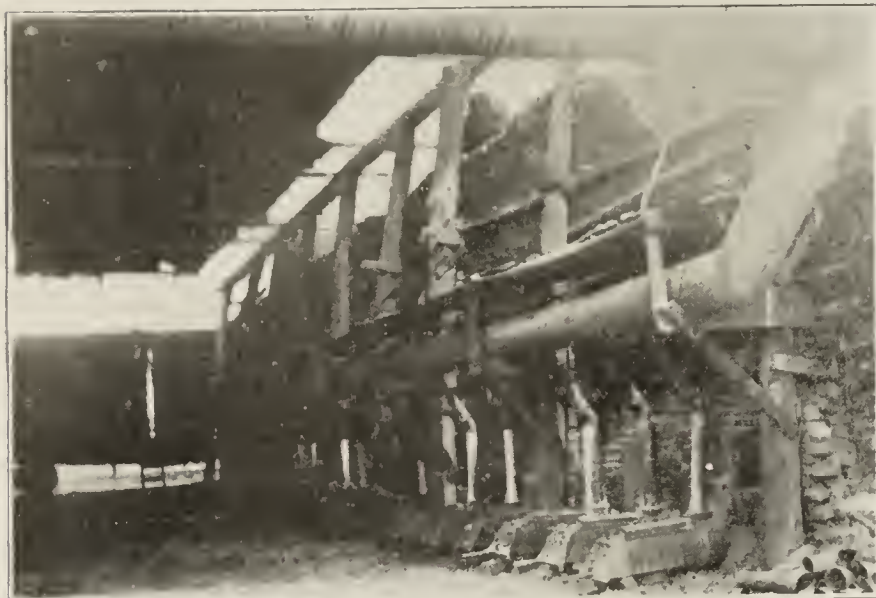


Scene in Pit Where Clay for the "Dixie Texture" Brick is Obtained.

years, he was joined by John P. Maurer, and the two of them have brought the plant to its present point of development.

When the Sumter Brick Works first started to make face brick they could only find a limited market for their product. Their face brick was so entirely different from anything previ-

siderably but not up to expectations. However, in 1919, a man was put in charge of the burning who certainly knew his business and who understood the gas producers. As a result, the burning time on the small kiln holding 250,000 brick has



How Producer Gas Burners Are Equipped on the Kilns is Portrayed in this Side-View of a Kiln.

been reduced to four days. In fact, a part of this kiln was shut off in three and one-half days. The large kiln which holds 450,000 brick and which it was intended to burn in two sections, can now be burned at one time in five days.

These results, together with a saving in fuel from thirty to thirty-three and one-third per cent. have been very gratifying to the Sumter Brick Works. This saving in time, fuel and labor was accompanied by the production of a much higher percentage of first-class ware.

To refer back to the brick again, it is a rather strange thing how the brick has developed from a common brick to a "face brick" of tones and textures in great demand. It seldom appeals to any one in the individual sample and looks in the hand, like an ordinary brick. When it is once laid in a wall with the various shades blended together, it produces a beautiful, unique and artistic effect that is most pleasing. It has none of the harshness nor coldness of many of our clay products, but is warm and inviting. To see purple, brown, grey, terra cotta, heliotrope and golden brown all in the same kiln is a sight to behold. Every brick is sprinkled with iron spots produced naturally. The manufacturers will not state how this is done, but will assure you that no artificial substance is used.

* * *

"What the sunshine is to the poppy, 'thank you' is to the human heart; without it, life would be colorless."



New Type of Up-Draft Kiln Designed to Withstand Strains Due to Expansion of Brick in Burning.

Paris to Have World Trade Meeting Place

At a conference held in London by the Association of Great Britain and France, the plans for an enterprise, based on the suggestions made by the general Council of the Department of the Seine and the Municipal Council of the city of Paris, were discussed and adopted. These plans provide for the construction of an international commercial center in Paris, to be used as a mutual meeting place for buyers and sellers of goods and products from all over the world.

To carry on the work of constructing the buildings necessary to this project, a company, the capital of which has been fully subscribed, has been formed under the name of "Paris, Marche du Monde." This company will build on the Quai de Passy a \$20,000,000 structure, six stories high, with a frontage of 850 feet. This building will contain 5,000 shops and offices, and club for buyers, producers and sellers, swimming and Turkish baths, a gymnasium, restaurants and grill room, roof garden, lecture rooms, and an industrial cinema theatre. The building will comfortably accommodate 30,000 people. The tenants of the building will be considered as clients, and not as objects of speculation.

Every convenience will be placed at the disposal of buyers and sellers, in the shape of telephones, interpreters, legal advisers, advisers on transport, freight insurance and customs regulations. The Consulates of every country engaged in trade will have permanent representatives in the building. Electric power will be available for the running of exhibition models. The object of the "Marche du Monde" is to attract, stimulate and encourage commerce and to bring buyers and sellers together and keep them together in constant business relationship with each other.

Lectures will be given on the following subjects: Exportation, political economy, applied industry, industrial arts, mining and geology, agriculture, the colonial products of the colonies of all the great powers, mercantile marine and commercial law.

Paris has been chosen as the home of this market, because of its central situation, and its proximity to large coal and iron ore deposits. The work of constructing this building will be finished within twenty months.

* * *

To Hold "Produce More Goods" Campaign

A national campaign to "Produce More Goods" will be inaugurated at the eighth annual meeting of the Chamber of Commerce of the United States, Atlantic City, N. J., April 26-29.

* * *

"A 'thank you' is a direct contribution and costs but little."



Battery of Kilns and Over-Head Duct Thru Which the Producer Gas Flows to the Various Kilns.

TRANSMITTING POWER MORE EFFECTUALLY

*Some Splendid Advice on Transmission Equipment, a
Too Often Neglected Factor in Clay Plant Operation*

By S. R. Walsh

*of the Goodyear Tire and Rubber Co. Ltd., Toronto, Ont. First Half of a Paper Read Before the
Recent Meeting of the Canadian National Clay Products Association*

APPROACHING THIS SUBJECT from the very beginning, we find that it takes us back to the time of constructing the plant. In most cases we are limited in our expenditures on plant construction and equipment and as we draw near the time of completion of the work we realize that we have exceeded this amount. As the mechanical equipment for the transmitting of power is one of the very last purchases, it naturally suffers in an effort to economize. This means lighter shafting, lighter hangers and fewer of them, smaller diameter pulleys and narrower and lighter belts. As time goes on and our production grows we make an increased demand upon this equipment in the amount of power transmitted, but certain conditions having been fixed, which cannot be altered without taking out the complete equipment, we find ourselves eternally in trouble.

Today, business is in a position where the question of sales and finance have become less important to that of labor and production. During this convention you have heard of all manners and means of lowering the cost of labor and production and probably none of you have given any thought towards your transmission equipment and its effect upon production. If you have any of the conditions of which I have already spoken, you will remember many times that you have been shut down thru some weakness in this equipment and you may remember many times when a change of speeds or an increase in the size of the belt has resulted in a large increase in the number of brick in your daily output.

TABLES SHOULD SERVE ONLY AS A GUIDE

There are many factors involved in the problems met with in the mechanical transmission of power which make it absolutely impossible to approach them in a single aspect. This makes it largely a matter of guess-work and not of any specific engineering data, therefore, when you desire to seek advice on this part of your equipment, it is not from a highly educated engineer but one who has made the question a life study and who has gained his knowledge thru actual experience in varying conditions and in varying processes of manufacture.

In planning installations one has to have sufficient vision to anticipate the unforeseen factors as well as practical results and to make due allowance for variations from conditions under which tables and formulas are compiled. There is a great difference in the conditions met with in actual practice and those in which tables are compiled. The precise condition is rarely met with, therefore, tables only serve as a guide.

The chief factor as well as the first to be considered is the process of manufacture and the plant equipment. This requires a close analysis of the power required, speed of

shafts, pulley diameters and atmospheric conditions under which the machinery must operate.

It is a question of getting maximum number of revolutions out of pulleys and shafting and the maximum amount of horse-power out of belting, etc.

The relative merits of the direct drive of the main shaft installation have been discussed before in this convention. Like all other questions such as the group drive, the rope drive, or some special plan of belting, it is not a question of which is best so much as which is best for the condition found in that particular plant. From time to time we hear one man say one thing is best and another man say another thing is best but in each case he is thinking of his own experience in some special condition or in some special line of manufacture. It has been his own experience that has prejudiced him in favor of any one of these items and not his knowledge of their performance under conditions in general.

STANDARDIZE SIZES OF EQUIPMENT

In the purchase of transmission equipment probably no point is more neglected than the standardization of sizes.

Plants located far from the centers of supplies would find it very profitable to purchase their shafting of standard sizes and lengths. Hangers should be of the same size and drop. Bearings should be kept well within the limits of certain sizes while belting could be confined to a few widths and plies.

The advantage derived would come thru the interchangeableness of all parts. If an important machine was forced to shut down thru the breaking of any part of its transmission equipment a call could be made on the equipment of a less important machine.

SHAFTING, HANGERS, ETC.

The construction of buildings has a great bearing upon the general efficiency of any transmission equipment. If ceilings or floors on which shafting is hung are of light construction the result will be a sag in the shafting. The settling of foundations produces the same result.

Hangers should be of a very heavy type to ensure a rigid shaft. Light hangers are inclined to spring or produce the same result in the shafting with a consequent loss of power in belting thru slippage.

Shafting is subjected both to the bending and twisting action. It is therefore important to distribute the load along the shaft rather than have it centered in any one or two places. Belts should leave the shaft in opposite directions so as to minimize any bending action while the main drive to the shaft should be in the center rather than at the end so as to minimize any twisting action.

As friction losses run from 15 to 60 per cent. the shaft should be considered a piece of machinery and not as a mill supply as is often the case. As it comes from the mill it is more often kinked at the end than not. Then between the dealer and the consumer, in the handling it gets, it becomes kinked some more. It is practically impossible for the consumer to get a straight piece of shafting while he makes his purchase thru an ordinary dealer. All shafting should be first straightened and then boxed to ensure it from being kinked in transit.

To eliminate all high spots on the shaft that interfere with the gripping qualities of pulleys and to give a smooth surface for running it in bearings all shafting should be turned.

Due to both the twisting and bending action of shafting, couplings of the compression type have a tendency to allow the shafting to get out of alignment. To endure a rigid smooth running shaft each length should be coupled with flange couplings which are keyed and fitted to the shafts at the factory. Such shafting will remain in true alignment for years and the loss of power from bending shafts will be diminished considerably.

All theory of the action of belts will not remain true if the axes of the pulleys are not rigid and in perfect alignment.

PULLEYS

Like every other item in your equipment pulleys have to be chosen for the work that they will be applied to and not for this particular type and as with other items the efficiency to be got out of them will be in ratio to the study given them.

The choice of pulleys is important because they are the items that the belts come directly in contact with. The wrong type or wrong size can create power losses much in excess of their initial cost.

Pulleys should be of large diameter to give high belt speeds and greater leverage.

Pulley diameters dictate the plies of the belt.

Pulleys should be judged from the point of strength, weight, coefficient of friction, and ease of mounting on the shaft. Split pulleys have a greater grip on the shaft than solid pulleys.

CLUTCHES

The clutch is one of the most important pieces of machinery in the plant when properly installed. But when otherwise, there is nothing in the plant that gives greater trouble to the millwright.

Again it is not a question of type but rather of application and in this case there are two points to always bear in mind. First, that the shaft is heavy enough to always be rigid and not inclined to bend and the other is that bearings be placed on each side of the clutch and as close to it as possible.

Just as belts will not work efficiently if the axis and pulleys are not perfectly rigid so it is with the clutch.

BELTING

In no line of machinery is the factor of safety more greatly required than in the transmission of power. Care in designing should be given to the question as to whether any part of the equipment will be subject to fluctuating loads or to any sudden severe overload.

It is in such cases of fluctuant loads that belts show their great advantage over other methods of transmission power.

Their use is not decreasing as some are unwise enough to believe but they are and always will be extensively employed because of the flexibility, simplicity and high efficiency under fluctuating and sudden heavy loads.

The individual drive is now being used extensively, but many plants are object lessons of how it can be overdone.

There seems to be a tendency among mill men to advocate their use for no other reason than to impress people with the fact that they are modern in their ideas.

Altho the main line shaft may never be used as extensively as in the past the group drive will always hold and maintain a place in plant design as it has many advantages.

WHAT DETERMINES THE DRIVING POWER OF A BELT

The driving power of a belt is determined principally by the speed at which it travels and the amount of its grip upon the pulley.

Most people forget that the pulley is nothing but a revolving lever, and that the longer the lever the faster it travels when turning around its axis and that the longer the lever the less the tension is upon it. In many plants a saving in time, money, loss of power and loss of production could have been made by simply increasing the diameters of pulleys thus giving them a greater leverage and faster belt travel.

The grip of the belt upon the pulley depends upon a number of conditions, the first being that of coefficient of friction. This value depends upon the physical characteristics of both the belt and the pulley, and upon the atmospheric conditions under which they are working.

The grip upon the pulley also depends upon the amount of arc of contact or the amount of wrap around the pulley of the belt measured in degrees.

The smaller the arc of contact the greater is the tendency to slip with consequent reduction in horsepower transmitted and it will be found that it is the arc of contact and not the surface of contact that counts.

In the ordinary open drive from the large to the small pulley the belt will always slip on the small pulley first not because there is more surface of contact on the larger pulley but because the arc of contact is less on the smaller pulley.

Then we have to consider the tension of the belt. The maximum tension which can be allowed with safety does not depend so much upon the breaking strain of the belt as upon its ability to withstand stretch.

The qualities of a belt are determined upon its strength against stretch and its pliability. Some belts are very strong yet are not pliable while others are very pliable and yet are not strong. The strength of the belt is determined by the point where it will start to stretch excessively. It is this factor which determines how much tension can be allowed safely and not the tensile strength of the substance of which the belt is made.

When belt tension is high joint trouble is more pronounced.

When one finds the combination of high tension, high velocity, and small pulleys then a very bad and severe condition exists.

Centrifugal force is another consideration. When a body is rotating around a center it becomes subjected to centrifugal force which tends to throw the rotating matters away from the center of rotation.

A belt traveling at high speed is under this influence which tends to raise the belt off the pulley face and to keep it from being in contact with the pulley, the tension of the belt has to be increased. This tension can do no work because it is all required to take care of the centrifugal force and hence the effect of centrifugal force is to subtract from the available tensions in the belt.

INCREASING THE POWER OF A BELT

If we desire to increase the power of a belt on any given drive we would increase the tension by taking out the slack of the belt. If this was not successful we would then increase the arc of the contact as well as the tension

of the belt by means of an idler. In some cases we could increase the arc of contact by simply increasing the centers between pulleys.

Power can be increased by increasing the adhesion of the pulley thru the use of a high grade belt dressing and by installing pulleys of high efficiency such as wood pulleys, paper pulleys, cord insert pulleys and rubber covered pulleys.

Power can be increased by increasing the width and ply of belts.

And as a last resort, power can be increased by the use of rider drives.

Where the diameters of pulleys, speeds of shafts, and size of belt cannot be altered then rider belts may be used. They should be about three-fourths of the width of the main belt and lighter in the ply and should be kept very tight while the main belt should be very loose in order to gain an arc of contact. They give about two-thirds of the power that they would transmit under normal conditions.

There are certain disadvantages in their use which should always be considered. Amongst them is the fact that only the main belt comes in contact with the pulley face of the belt and must do all the work of transmitting the power of both belts. When load is subject to sudden changes the main belt or loose belt will sway and flap.

The two belts being in different tension one must be much longer than the other, therefore it travels more feet per minute. This condition results in the slipping of the rider belt on the main belt which causes it to wear out the two faces in contact.

FACTOR OF SAFETY

Horsepower tables have been compiled under certain conditions and when we vary from them we find that the tables are very deficient.

On intermittent drives such as crushers and compressors we should deduct from 20 to 30 per cent. from the rate of horsepower given. Where belt speeds are over 4,000 ft.

per minute the tables are deficient to the extent of 5 to 20 per cent. On vertical drives we should deduct 10 per cent. Where there is a great difference in diameters of pulleys the deficiency is about 10 per cent.

PROPER CENTERS BETWEEN PULLEYS

The proper centers between pulleys depend much upon circumstances but it is good engineering practice for centers to be not too short. They should be long enough to absorb by means of their elasticity the slight changes in the power supply and not long enough to produce a heavy drag upon the bearings.

Pulleys up to 6 inches should be from 12 to 15 feet between centers; up to 12 inches, 15 to 20 feet between centers; up to 24 inches from 20 to 25 feet between centers; and over 24 inches, 30 feet to 40 feet between centers.

Where the distance between centers is of an extreme length the tendency of the belt is to flap and run unsteadily especially so where belts are wide and thin.

EFFECT OF SHAFTS OUT OF ALIGNMENT

When shafting or pulleys are out of alignment it causes the belt to prematurely fail. Belts run off each of the pulleys frequently rubbing against obstructions which fray the edge badly and often catch the joint and tear the belt from end to end.

The shafting may become out of alignment from several causes such as having become sprung thru excessive overloads; timbers upon which shafting have been placed may become warped; or floors sink by reason of heavy loads on floor overhead.

When shafting gets out of alignment the direction of belt travel from the two pulleys on driving and traveling shaft are at a slight angle to each other which is sufficient to throw a great strain at one side of the belt consequently overstraining that side. It also throws a heavy strain on that side of the joint which in many cases results in the joint breaking and the tearing of the belt from end to end.



NOTES *from* the NATION'S CAPITOL

WHILE CONGRESS has not been particularly active during the past fortnight with regard to measures dealing with the building industry, a few happenings have occurred of more than passing interest.

The Senate has adopted a resolution by a large majority providing for the appointment of a committee of five senators to investigate housing problems in some of the large cities of the country.

Particular attention is being given to a bill introduced recently by Senator Frelinghuysen, New Jersey, covering the appointment of a federal coal commissioner. Under this bill, the commissioner would have the power to regulate the production and distribution of coal in all parts of the country. The Executive Committee of the Senate has referred the bill to the Industrial Committee for a thoro study.



In a hearing before the House Immigration Committee, April 16, Ronald Taylor and Clarence L. Smith, president, respectively, of the Building Trades Employers Association and the Contractors' Protective Association, both of New York, informed the members that there is a national shortage of common labor ranging from 25 to 40 per cent. This condition, it was set forth, is retarding building operations to a serious extent; common laborers are receiving \$6.00 a

day for eight-hours work, as against \$1.75 for a nine-hour day before the war, at New York City and neighboring sections. Both representatives opposed the continuation of the immigration ban following the declaration of peace.



The Supreme Court of the District of Columbia has handed down an important ruling (April 20) holding that the Federal Trade Commission was without authority to enforce its order requiring monthly reports of production costs from coal mining companies and other industries. This decision affects every mining and manufacturing company in the country. The order calling for the reports was issued by the Commission in January. The case at issue was brought by the Maryland Coal Co., and in granting the application for an injunction to restrain the commission from proceeding to collect a penalty of \$100 a day for failure to report, Justice Bailey of the Supreme Court says that the powers sought by the Commission were "vast and unprecedented" and beyond the province of Congress to convey.



"A rising inflection requires no more effort to say 'thank you' than a disconsolate tone—and it always makes a better impression."

To EDUCATE PUBLIC to USE of HOLLOW TILE

Clay Building Tile is Destined to Become More Popular Because of Advertising Campaign and Distribution of Four Booklets Which Have Recently Been Prepared on How to Use This Worthy Building Material

HOLLOW BUILDING TILE is not going to take a back seat in the new building era. This is now obvious from the recent activities of this industry which have been carried on by its organization, the Hollow Building Tile Association. The first complete scheme of promoting hollow building tile for its multitude of uses is now well under way and magnificent results are already being obtained.

Altho individual makers of hollow building tile have at various times done considerable educational and promotional work by preparing booklets on the use of this commodity and by publicity in various newspapers and popular magazines, nothing has ever been attempted before, in a national way, for a complete and comprehensive campaign on behalf of this excellent building material.

ASSOCIATION TO EDUCATE PEOPLE ABOUT TILE

In recent years hollow tile has made rapid strides and is steadily coming to the front as an able and economical structural unit, and with the educational work that is now in progress, the popularity of hollow tile construction promises even to increase many fold. The ignorance on the part of the public of the possibilities and economy of hollow tile is more dense perhaps than that regarding any other building material, and it is quite possible that this is the reason that a more general use of hollow tile has not been made. The long felt need for some medium to loose the shackles which have held back the development of this industry and

that would educate the public to the better use of this commodity is now being well taken care of by the Hollow Building Tile Association, whose headquarters are in the Conway Building, Chicago, and of which E. R. Sturtevant is secretary.

The chief efforts of the above association have recently been centered on pushing the use of the product which is manufactured by its sixty-two members. On another page may be seen illustrations of the method of attack that is being used by the association. Advertising copy is being placed in magazines that reach *sixty million readers*. There are two types of "copy" being used, one of which is an appeal to home builders and such advertising is now appearing in the "American Magazine," "Literary Digest," and other popular journals. The other class of advertising copy is that which is promoting the use of clay tile in farm building construction and it is now appearing in the "Country Gentleman," "Farm Journal," "Successful Farming" and other leading farm papers.

TO PUSH DEALER COOPERATION

Advertising is also being placed in another field to tell building supply dealers the advantages of handling hollow tile. A great opportunity for manufacturers of various building materials to find a very suitable medium for merchandising their ware is just beginning to be taken advantage of thru the use of the building material supply dealer. Few manufacturers are good merchants. This is only natural for their business is that of manufacturing. On the other hand merchant-



Here Are the Four Booklets Which Have Been Prepared by the Hollow Building Tile Association and Which Are Distributed to Inquiries Received Thru Advertising.



Some of the National Mediums in Which Space Has Been Purchased by the Hollow Building Tile Association and the Type of Advertising Which Is Read by 60,000,000 Readers of the Various Journals In Which It Appears.

dising is the business of the building supply dealer and his standing in the community which he serves, his knowledge of the building needs in his locality and his well trained staff for the marketing of building materials can be taken advantage of by the manufacturer with excellent results, if he will use this organization which is at his disposal. These facts are realized by the association which is placing advertising copy in the building material dealers' paper, which is known as "Building Supply News."

As a follow up to the advertising campaign a series of four books have been prepared which may be obtained by the public merely for the asking. This literature supplies the link that has been most necessary. It shows the general utility of hollow tile, the great diversity of uses to which it can be put, makes easy the construction work, and points out its many advantages as well as its economy. Besides the booklets which have been prepared and which are discussed below, other pamphlets which will dwell on other phases of the industry are now in preparation.

BOOKS ON HOLLOW TILE PREPARED

"Hollow Tile for the Home" is a fifty page booklet containing many illustrations of home buildings constructed of hollow building tile and faced with either stucco, face brick, or rough-textured tile. Floor plans accompany the picture of each house. Some space is devoted to the education of the public to the advantages and uses of this commodity by sketches, telling of its economy and merits, facing for hollow tile homes, hollow tile floors and partitions and furthermore, several pages are given over to discussing the details of hollow tile construction which are of valuable aid to any contractor or builder.

"Hollow Tile Farm Buildings" is another booklet of the same size and style as the one mentioned above. In this pamphlet is given the many advantages which result from the use of clay tile in farm structures and illustrations are given of various types of farm barns, silos, milk and dairy houses, hog houses, corn cribs and granaries, grain elevators,

poultry houses as well as homes and garages. A page is also devoted to the promotion of clay drain tile. As in the preceding book, several pages at the end are given over to details of hollow tile construction which aids the farmer in constructing the buildings on his farm if they are to be constructed of hollow tile.

"Hollow Building Tile Manual for Builders and Masons" is a very useful book which will be greatly appreciated by contractors and builders inasmuch as it is of valuable aid to them. Undoubtedly, one of the main reasons why more hollow tile structures have not been constructed can be traced to the fact that there is a general lack of knowledge among builders of how to use this building material in construction work. The need for educating the contractors is an important one and this is now being well cared for by the distribution of these brochures.

"Hand Book of Hollow Building Tile Construction" is a large volume of over a hundred pages which, as its title implies, is a useful manual for builders and engineers, who are required to build structures of hollow tile. In it are given illustrations of standard shapes for structural, floor and partition work; description and illustrations of the use of hollow tile in bonding walls, methods for estimating quantities of tile required; recommendations for specifications for hollow building tile construction, as well as a wealth of data on different construction features.



Eastern Brick Men Hold Together

The regular monthly meeting of the brick manufacturers of Eastern Pennsylvania, Southern New Jersey and Delaware, was held at Atlantic City on April 17. A number of important matters regarding spring operations were up for discussion and a good representation was present. This organization was formed by the Government during the war, known as Group No. 4 and has continued to hold regular meetings for the discussion of matters of general interest. William Conway, Jr., Philadelphia, Pa., is secretary.

ILLINOIS CLAY WORKERS RENEW OLD-TIME INTEREST *at ASSOCIATION MEETING*

*Illinois Clay Manufacturers' Association Still Shows
"Signs of Life" at the Forty-Second Annual Convention
—Splendid Meeting Held in Chicago on April 20 and 21*

MORE THAN FIFTY men whose labors bring them in close touch with the manufacture of ceramic products, attended the sessions of the various organizations allied and meeting in conjunction with the Illinois Clay Manufacturers' Association. The forty-second convention of the above association took place at the Hotel La Salle, Chicago, on April 20 and 21, and the following groups held their respective meetings during the period of the convention: The Chicago Section of the American Ceramic Society, Illinois Paving Brick Manufacturers' Association, and Illinois-Indiana division of the American Face Brick Association.

The general program opened at about 1:30 p. m., Tuesday, April 20, at the call of President Harvey C. Adams, of the Danville (Ill.) Brick Co. Following the reading of the minutes of the previous meeting and the financial report, both given by Secretary-Treasurer C. W. Parmelee, the entire afternoon was devoted to the hearing of talks on technical subjects and plant problems and discussions on various points that were brought up by those who listened to the papers.

OPENS DISCUSSION ON FORCED DRAFT BURNING

Professor R. K. Hursh, of the Ceramic Department of the University of Illinois, opened a symposium on the forced draft system of burning by describing the general principles of forced draft burning and showing the advantages as well as economy of this method of firing kilns. His explanations cleared up many technical points and laid the foundation that made it easier to follow and understand the three speakers who followed him.

E. F. Plumb, of the Streator (Ill.) Brick Co., installed a forced draft system of burning, according to the suggestion and direction of C. E. Carter, of the Peoria (Ill.) Brick and Tile Co. Some very interesting data was presented by Mr. Plumb, who stated that under the natural draft system of burning he was satisfied to obtain 88 per cent. of No. 1 ware from his kilns using about fourteen hundred pounds of coal to the thousand brick and burning in 180 hours. Following the installation of the forced draft systems he was able to obtain 93.8 per cent. of first class ware on the average, using 1,096 pounds of coal per thousand brick and burning on the average, in 147.7 hours, showing a gain of 4.8 per cent. of No. 1 ware, which, on a basis of 750,000 brick, gives an increased value of \$7.00 per thousand, amounting to a saving of \$5,250.00 in ware alone. Since only part of the kilns are equipped to burn with forced draft, this system of burning has only affected 750,000 brick per annum. Had the whole plant been equipped with forced draft burning systems the saving would have been even greater than \$5,250.00.

TIME SAVING AMOUNTS TO SOMETHING

The percentage of time saved in the burning of a kiln with a kiln investment of \$50,000 would give a saving of \$1,500.

An interesting sidelight to the installation of this system of burning has been the discovery that the ordinary kilns that burn only with natural draft could also be speeded up considerably in burning.

C. E. Carter, who followed Mr. Plumb, told how by the installation and development of the forced draft system, his plant has been enabled to burn ware, which formerly under natural draft burning required 7.3 days, in 3.5 days. The story and full description of the savings made, together with the equipment required, was published on pages 869 to 873, inclusive, of the May 20, 1919 issue, of *Brick and Clay Record*.

Harvey C. Adams, stated that his company had also equipped its kilns to burn with forced draft, and said that an individual motor was used for each kiln, thus, fourteen fans were required on his plant. A saving in coal, time, and an increase in percentage of No. 1 ware, were the results of the introduction of this system of burning on the Danville Brick Co.'s plant.

DESCRIBES INTERESTING EXPERIMENT IN DRYING

Many of the audience were amazed at the revelations made by Professor E. W. Washburn, of the Department of Ceramic Engineering, University of Illinois, in his blackboard talk on "Some Factors Involved in the Drying of Clay Ware." Dr. Washburn made clear the phenomena of clay drying and described the results of some laboratory experiments made to study the effect of gravitation upon drying. He told how a piece of moist clay suspended above water dried faster than when it was held in a position lower than water level.

Professor G. H. Radebaugh, of the University of Illinois, had for his subject, "Belts and Bearings." The discussions and questions which followed his talk showed the keen interest displayed in the subjects he touched upon, such as the care of belts, the lacing of belts, belt fasteners, belt lacings, canvas belts, how to determine the length of a belt, belt records, inspection of belts, and how to rebabbit a shaft bearing.

KEEN INTEREST IN TUNNEL KILN DISCUSSION

The next subject on the program proved to be the feature of the convention. The subject of tunnel kilns was discussed by Professor Carl B. Harrop, of the Ohio State University, and Conrad Dressler, of New York. This was the first opportunity for middle western manufacturers to listen to a dissertation on this much popular topic, hence, keen interest was shown by the many men present. The subject was gone into in complete detail, as to its working principles, method of construction, method of operation, economy and advantages. Both the direct fired and indirect fired types of kilns were described and lantern slides aided in the presentation of the subject.

"The Composition of a Paving Brick as Related to Its Rattler Tests," was the title of the final paper presented at the

afternoon session. Professor C. W. Parmelee, of the University of Illinois, who presented this paper showed the affects of different minerals upon the strength and toughness of the ware, and mentioned the fact that the silica content was of extreme importance in this matter. Furthermore, he told how the toughness of paving brick was affected by reducing conditions in burning and by the rate of cooling of the ware.

CHICAGO SECTION A. C. S. DINNER

Forty-eight persons attended the informal dinner held under the auspices of the Chicago Section of the American Ceramic Society. H. T. Bellamy, who is president of the Chicago Section presided over the program which followed. Much interest was manifested by all present in the talk on "The Enamel Brick Industry," by I. E. Hardy, of the Tiffany Enamel Brick Co., Momence, Ill. This subject has not been given very much discussion in the past, and everyone present was glad to hear of the problems met by this industry. Mr. Hardy pointed out that there was plenty of opportunity for greater progress in this branch of the ceramic field and that the handicap met by manufacturers engaged in this business has been due to the multitude of shapes which entail extra cost in burning and handling. Following his talk, Mr. Hardy asked those present if they could explain the cause of green spots which occur in enamel brick and terra cotta. It was the opinion of those present that it might be due to minute particles of iron, a very small percentage of which will cause coloration; or to particles of copper or brass which might be introduced in the mines or from the bushings of shaft bearings.

An interesting paper on "Humidity Drying" was delivered by H. P. Matzen, of the Carrier Engineering Corporation, Chicago. This paper was followed by a discussion on the possibilities of rapid and safer drying thru the use of humidifying systems.

The evening was ended with a series of brief messages touching on many subjects of interest to those present, by many of those in attendance, including W. D. Gates and Wm.

Hammerschmidt, whose interest in the affairs of the Illinois Clay Manufacturers' Association dates back to its inception.

LABOR—CHIEF TOPIC AT LUNCHEON

The various individual organizations which met with the state association, held their separate meetings on Wednesday forenoon, and then all clay products manufacturers present united in a joint dinner, at which Harvey C. Adams presided. Dean C. R. Richards, of the College of Engineering, University of Illinois, addressed the members on the history of the ceramic department at the university and explained the co-operative research work which the Engineering Experiment Station of the university was doing for several different industries. He invited the clayworkers of Illinois to present a problem to the university for investigation and research and also asked them to urge more students to attend the course in ceramics.

Following this speech, the very important topic of labor was discussed by a number of men present. Mr. Adams started the subject off by reading an account of conditions as they existed in England 153 years ago, and which seemed to be surprisingly similar to the situation in this country today. The item when referring to lower production, high prices, high wages, and extravagance, sounded as tho it was a clipping from a daily paper describing present conditions.

The need for a closer relationship between employer and labor, more machinery to take the place of men, changes in immigration laws, etc., were some of the points touched upon by Eben Rodgers, of the Alton (Ill.) Brick Co.; Douglas Stevens, of the Acme Brick Co., Danville; J. A. Reeves, of the Stricator (Ill.) Drain Tile Co., and G. C. Mars, head of the department of service of the American Face Brick Association.

The meeting was adjourned following the announcement of the election of officers, who for the ensuing year will be: President, Harvey C. Adams, of Danville; vice-president, Ben Richards, Edwardsville; secretary-treasurer, C. W. Parmelee, Urbana, and to serve on the legislative committee, F. W. Butterworth, Wm. Hammerschmidt, and J. W. Stipes.



HOW a POTTERY CONCERN QUELLS RADICALISM

THE FIRE OF DISSENSION is easy to kindle these days.

Labor is restless, employers far from satisfied with general working conditions, and plant operations curtailed thru numerous circumstances brought about as the result of the war. And these circumstances are intensified and made worse thru want of just, sober and considerate attitude, action and utterance.

Give a man a thought, good or bad, and he is liable to make capital of it; he will utilize it for what it may be worth in an attempt to ameliorate conditions. This is how the seed of dissatisfaction takes root among workers at a plant; it may be the fault of the employer, but more often, as found today, the offense rests with the employe. One man can create a lot of trouble, two men can create more, and unified effort for a cause brings a serious aspect.

So-called "propaganda," to use a rather over-worked word, abounds in different industrial channels; of this there can be no question, for almost daily evidences come to attention. It works in underground channels, and it should be brought to light—given the widest publicity in the right way, with right combating arguments, for only in this manner can it be throttled.

Propaganda enflames the spirit of dissension—and the employer's sensible come-back is the water that quenches the fire.

When propaganda takes the form of the printed word, and it reaches the employer, it is his duty to promote it further,

and in this promotion to show the fallacies, the faults and the dangers embodied in such a text; to give a good thought where the bad would hold sway; to inspire loyalty where treason might exist. It is the shortest, quickest way to end the trouble that "reds" and "radicals" would create in this country. It is up to every real citizen to play them at their own game—they want the limelight, let them have it, but such a light that dazzles the vision and makes blind any thought but that of indisputable loyalty.

How can the employer help? By letting his employes know that he knows, and in the pottery industry the Thomas Maddock's Sons Co., Trenton, N. J., is pointing the way. In an official medium circulating among the workers at this sanitary ware plant, particular prominence is given to a communication that has come to the notice of the company. In this, it is set forth that the letter, noted below, addressed "To the working people of America," is being distributed to factory workers in different industrial centers,—Detroit, Toledo and Pittsburgh. Here's what the letter says:

The war is over. Your exploiters have quickly placed their profits in safety. You, the working slaves, will soon find yourselves in the street, looking for work, for it is your only means to supply yourselves with the necessities of life. Because You Lack Courage To Use Others' Methods.

What were your profits out of this war? You lost all the little of liberty you had, and you gave your sons, brothers and

fathers to be shot down like dogs and left to rot in the fields of France. What for?

For the glory of the American flag?

So that your masters may have bigger markets to sell their merchandise?

The workers of Russia, Germany and Austria have risen and overthrown their rulers—not by ballots, but by arming themselves as is your only means.

You alone do not budge. Are you afraid to follow their example? Are you afraid to take by force that which rightly belongs to you?

Will you be meek and slavish? Will you wallow under the iron heel of your masters? Or will you TEAR your way by revolution to a better and happier life? Which will you choose?

(Signed) A Group of Working Men.

And here's what the company says, in part, in presenting this to its employes:

To the thinking men and women of America, to the honest, sober and industrious workers of this fair land, this piece of vile and treasonable literature is an insult to their intelligence.

The man or woman who believes such thoughts as these is an object of pity. The man is to be detested who would think that—"you lost all the liberty you had and you gave

your sons, brothers and fathers to be shot down" for any other purpose than "for the glory of the American flag," for that American flag stands for Liberty, Freedom and Justice.

The weak link in the chain of the "radical" is that to acquire or reach the goal of equalization and perfection, one must pass thru the hell of revolution, massacre and death.

When the whisper of treason comes to you, first think and then remember all that America has stood for since the beginning of her history and let us remember that we are enjoying a birth-right of freedom unknown in any land in all the world.

Do not listen to such propaganda as this; close your eyes and ears to it, because it is designed to make you and your neighbor shopmates dissatisfied. It is aimed at the very heart of your existence, for to heed it leads to eventual want, suffering and dishonor. In the history of industry there has never been a time when there was so much work, when there were so many jobs, when there was such a spirit for work.

Let us keep up the spirit of true prosperity by being an American and nothing else, remembering the thought of Theodore Roosevelt who said, "I believe that we have room for one soul loyalty and that is loyalty to the American people."



CURRENT PRICES *of* COMMON BUILDING BRICK *from* SEVENTY-FIVE CITIES

INASMUCH AS considerable interest has been manifested recently in common brick prices thruout the country, it has been deemed wise to make a compilation of current quotations for the benefit of our readers. The prices which follow are reported as *delivered on the job*. They are, therefore, in the very nature of the case, higher than the plant price. This should be taken into consideration in examining them.

If for any reason these prices do not seem to be in line

with conditions as they exist in the towns enumerated, and furthermore, if you have any information that would tend to prove these prices to be incorrect the editors of *Brick and Clay Record* will be very glad to hear from you. These are, however, quotations which are being given at the present time by agencies selling brick in the towns mentioned.

The foot notes are explained at the end of the following tabulation:

COMMON BRICK	Per M		
Boston, Mass.	\$29.25	Trenton, N. J.	25.00
Providence, R. I.	32.00*	Wilmington, Del.	25.00
Hartford, Conn.	30.00*	Washington, D. C.	24.50
New Haven, Conn.	35.00	Baltimore, Md.	24.00
New York City	30.45	Richmond, Va.	25.00
Albany, N. Y.	25.00	Huntington, W. Va.	20.00
Utica, N. Y.	30.00	Fairmont, W. Va.	26.00
Syracuse, N. Y.	25.00	Wheeling, W. Va.	26.00
Oswego, N. Y.	30.00	Atlanta, Ga.	25.00
Binghamton, N. Y.	28.00	Tampa, Fla.	30.00
Elmira, N. Y.	35.00	Frankfort, Ky.	24.00
Rochester, N. Y.	19.50	Louisville, Ky.	20.00
Buffalo, N. Y.	30.00	Lexington, Ky.	22.50
Jamestown, N. Y.	33.00	Memphis, Tenn.	27.00
Allentown, Pa.	17.50	Nashville, Tenn.	19.50
Erie, Pa.	22.00	Birmingham, Ala.	25.00
Philadelphia, Pa.	25.00	New Orleans, La.	22.00
Pittsburgh, Pa.	20.00	El Paso, Tex.	19.00
Scranton, Pa.	28.00	Houston, Tex.	25.00*
Newark, N. J.	32.00	Dallas, Tex.	30.00
Paterson, N. J.	36.00	Topeka, Kans.	20.00
		Little Rock, Ark.	18.00
		Oklahoma City, Okla.	24.50
		Cincinnati, Ohio	21.00
		Cleveland, Ohio	25.00
		Columbus, Ohio	28.00†
		Evansville, Ind.	15.25
		Fort Wayne, Ind.	20.00
		Indianapolis, Ind.	22.00
		South Bend, Ind.	21.00
		Terra Haute, Ind.	19.00
		Bloomington, Ill.	22.00
		Chicago, Ill.	16.00
		Moline, Ill.	24.00
		Green Bay, Wis.	24.00
		Milwaukee, Wis.	18.00
		Minneapolis, Minn.	22.00‡
		St. Paul, Minn.	22.00
		Davenport, Iowa	23.50
		Des Moines, Iowa	30.50
		Sioux City, Iowa	18.00
		St. Louis, Mo.	20.00
		Lincoln, Neb.	20.00
		Denver, Colo.	18.00
		Butte, Mont.	16.00
		Los Angeles, Cal.	13.50
		San Diego, Cal.	18.50‡
		San Francisco, Cal.	17.50
		Portland, Ore.	20.00
		Seattle, Wash.	17.50
		Winnipeg, Man.	20.00
		Toronto, Ont.	18.00
		Halifax, N. S.	19.50
		Quebec, Que.	17.00

*Hartford, sold by mfrs. only; minimum price. Providence, price at yard, \$28 to \$35.

*Mfrs. price. Houston, another dealer quotes \$22.

†Also quoted \$30 Columbus.

‡Also quoted \$18 at Minneapolis.

‡Carlot rate, San Diego.

A REFRACTORY BLOCK

for KILN and BOILER SERVICE

Describing the Utility and Points of Merit of a Simple Burned Clay Product Which Helps to Combat Present Labor and Operating Costs on the Clay Plant

ANY MATERIAL, device or equipment that will make for a saving of time, labor and money in the clay-working plant is interesting, and particularly so in these days when the big demand is for greatest possible operating efficiency in all departments of production.

Modern, up-to-the-minute thought and ingenuity have brought about decided changes in many features of plant operation, and now when one knows better, he is inclined to look back and reflect upon former methods in this or that phase of production, and wonder why the improvement or betterment was not made before. But desirable changes are not always made thru choice or immediate decision—we are often driven to the necessity. It is easy enough to see things after they are done, and in the everyday working, it is forethought and not hindthought that counts.

With present labor and operating costs of kiln firing, fuel and production, the best is none too good and any factor or installation that will tend to better conditions, whether for employer or employee, is well worth while. A refractory block for kiln and boiler service has been developed that is decidedly of this latter status, and a brief description of this simple and effective burned clay product, its utility and points of merit, will be of more than ordinary interest to those attracted by modern methods.

A few of these blocks laid together are shown in the accompanying line illustration, Fig. 1. All blocks are of the same size, being 18 in. long, 9 in. wide and $4\frac{1}{2}$ in. thick, made with 6 $4\frac{1}{2}$ in. diameter, half-round depressions, as shown. These blocks are used in multiple to form the floor or wall desired, laid alternately vertically and horizontally, or on side and on end, in the manner indicated. When so employed, the half-round apertures in one block coincide with those of the adjoining blocks, forming a perfect, round hole of $4\frac{1}{2}$ in. diameter.

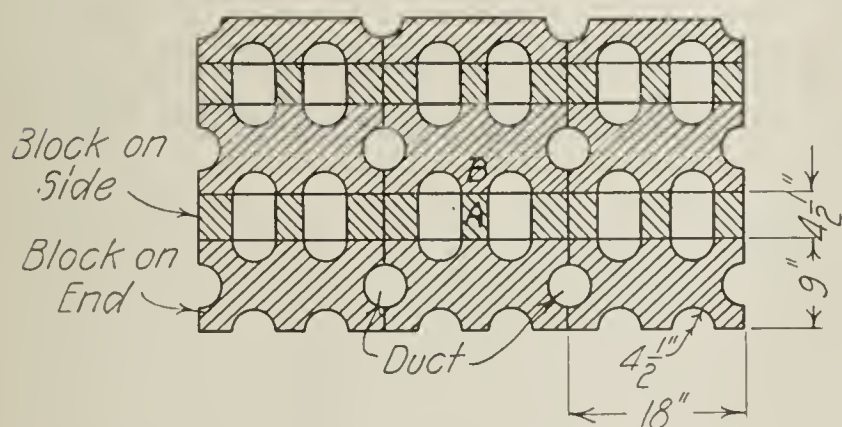


Fig. 1. A Method of Laying Up Special Shaped Blocks That May Be Employed in the Construction of Kiln Bottoms.

when placed in like position, or a connecting aperture when laid in reverse position, as designated at "A" and "B", respectively, in the illustration.

The principle of this construction is based upon a series arrangement of ducts for a more perfect and equalized dis-

tribution of heat and gases from the burning fuel. The circulation is obtained thru the openings formed by the half-round apertures in the blocks, or full round when

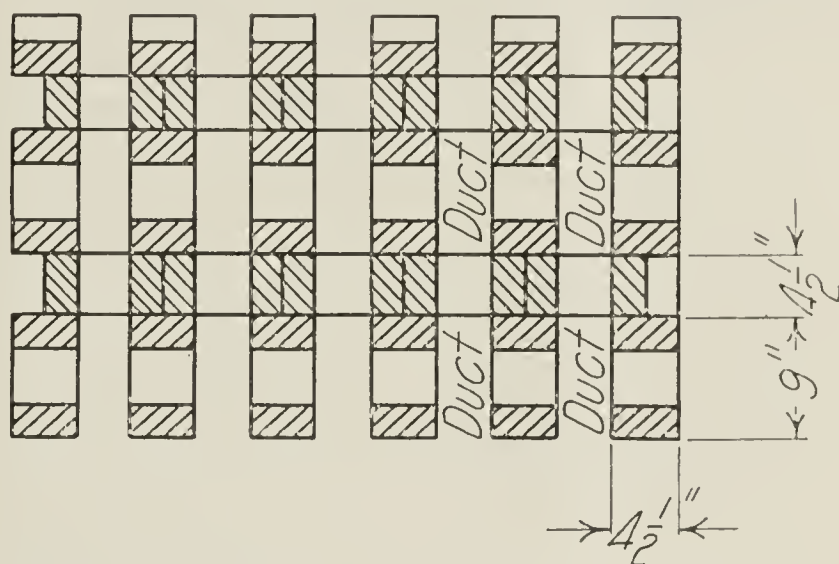


Fig. 2. How Ducts Would Be Formed by Laying Up the Blocks As Shown in Fig. 1.

placed in position, the block itself acting as a channel wall or baffle to force the heat and gases thru these circular ducts. This will be readily understood by noting the front view of the blocks in Fig. 2, corresponding to the laying-up as in the side view in the previous illustration, Fig. 1.

FOR KILN BOTTOMS

These blocks form an ideal floor construction for kilns, whether up or down-draft type. Such a bottom is shown in the typical kiln illustrated in cross section in Fig. 3; the blocks, as will be noted, are laid in double height, that is, one row on end and the other, or top row on side, giving a total thickness of about $13\frac{1}{2}$ in. This kiln is of common bee-hive type, "A" being the side wall; "B" the inside of bag; "C" the bag wall; "D" the oven space; "E" the cooling holes; "F" the fire-holes; "G" a culvert leading to the flue, "H", which connects with a stack, and which stack, in this case, is used for adjacent kilns of like type.

This type of kiln bottom is suitable for use in brick producing kilns or for kilns employed for the burning of pottery and terra cotta specialties. Results in actual service show that this floor construction saves close to one-third of the fuel ordinarily used, bringing about equal distribution of heat thruout the kiln; it allows of greater kiln capacity, with more perfectly fired goods direct to the bottom of the kiln. There is less wear on the kiln, and it fires off and cools more quickly. With this type of floor the gases are utilized to best heat service and smoke is at a minimum.

Under a recent observation, two kilns were fired, one being equipped with this block floor construction and the other of regular type. The first kiln, or one with refractory block bottom, was fired in two-thirds less time, and indicated a saving of over one-third in fuel consumption.

Perforated blocks of this type are now being used by the Wall Grange Co., Ltd., of England, and experiments conducted at this plant show some interesting and illuminating comparisons. In explaining the advantages, the company says that in addition to the saving of fuel, it is possible to place more goods in these kilns, with much better results

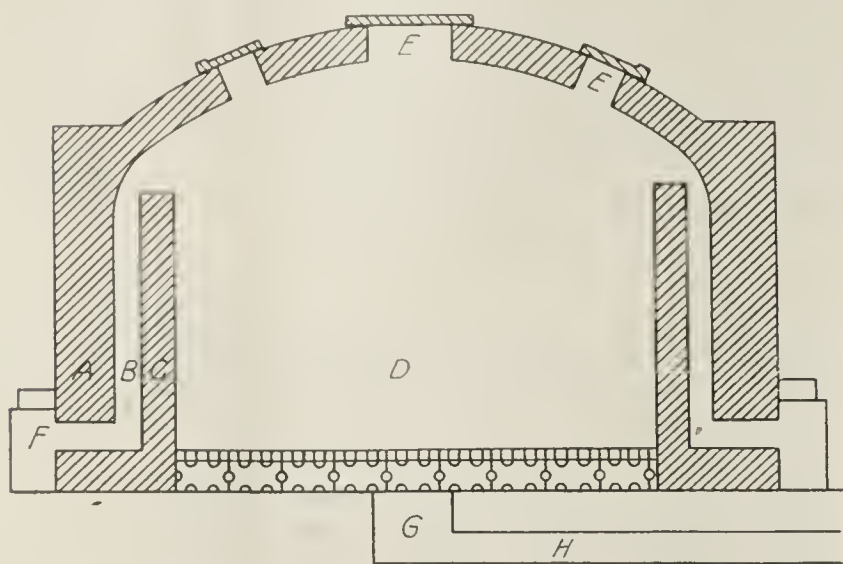


Fig. 3. Showing How a Kiln Would Look With a Floor, Laid Up with the Special Shapes Described in this Article.

so far as quality of run is concerned. The findings in connection with the series of tests were as follows:

No. 1 Kiln: On the old system the kiln held 13,000 brick and took from 11 to 12 tons of fuel to fire, according to the condition of goods when set. With the new perforated quarry bottom system, the kiln will hold 15,500 brick, and requires from 8 to 8½ tons of coal.

No. 2 Kiln: Old system, capacity 14,000 brick, with fuel consumption of 10½ to 11½ tons. Under the new system the capacity is 14,500 brick, and the fuel consumption 7¾ to 8¼ tons.

No. 3 Kiln: Old system, capacity 28,000 brick, fuel consumption, 21 to 22 tons. Under the new system, the capacity is 33,500 brick, and the fuel consumption 14 to 14½ tons.

Continuing its statement, the company says: "On the old system we were seldom able to draw salable goods to the bottom of the kiln, but on the new system, the goods are salable thruout in addition to being much more uniform in color. We are also firing a considerable quantity of terra cotta ridge tiles, wall coping, etc., with equally satisfactory results. A further saving is obtained in reality, as we are now using an inferior fuel to that used heretofore."

FOR BOILER SERVICE

These refractory blocks are equally effective for use as a baffle wall in connection with boilers, particularly those of horizontal return tubular type. For this service the walls are constructed about 15 in. back of the bridge wall, and for a distance of three-block lengths, or 4 ft. 6 in., from this point; with height of boiler about 27 in. from the floor line, four blocks high are required, placed alternately on end and on side.

This installation brings about a noticeable increase in efficiency; as the hot gases pass over the top of the bridge wall they come in contact with this baffle wall, and find their way thru the various apertures formed by the blocks, bringing about an equalized heat condition under the rear of the boiler in this constant circulation. This is in decided contrast to the unobstructed passage as found in ordinary construction of boilers of this type.

These perforated blocks have been designed, perfected and patented by Charles T. H. Phillips, president of the Sneyd Enamelled Brick Co., Trenton, N. J., who sums up the merits by saying that the installations in England and this country

have shown conclusively that this construction is "simple, cheap and effective."

It is these three words that tell the story in a nutshell, for the service and utility can readily be applied to existing installations by a few primary changes. The refractory blocks lend themselves admirably to work of this character and the matter of installing is one that requires only ordinary labor—the laying is a simple matter, it is the blocks that do the work.

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Statistics on Ontario Clay Manufacture

The Ontario Bureau of Mines has recently issued its annual report covering production for 1918. While it is a little old there is some interesting information to be gathered from this report. That year there was a great decrease in building and in brick production due to war activities. The number of pressed and fancy brick made in 1918 was 25,377,000, worth at the factory \$396,968, as compared with 36,233,000 worth \$474,614 in 1917. In both these years more than half of the production was made by the Milton Pressed Brick Co. Ltd. which uses as raw material Medina shale at Milton. Overlying the Medina shale is five or eight feet of a limy grayish red clay which is mixed with ground shale to insure a good color and is used in the manufacture of wire cut brick. The shale itself is ground and made into red pressed brick of good quality. There is also a band of bluish gray shale about two feet thick which is used for the manufacture of buff colored brick.

The following tables give the figures of output, fuel consumption and price of common brick, drain tile and hollow building tile. The price of common brick which was \$7.96 per M in 1915 rose to \$13.44 in 1918 and is quoted at about \$22 today.

Product	M	Value
Common Brick	49,498	\$665,454
Drain Tile	13,087	309,899
Hollow Building Tile.....		195,588

In the matter of fuel used in firing brick kilns, the figures indicate a decided decrease in the use of wood and a corresponding increase in the use of coal. The quantity of natural gas also shows a considerable decline but a marked advance in price per thousand feet.

Cords of wood, 13,378; valued at \$70,845, or \$5.29 per cord.

Tons of coal or coke, 27,791; valued at \$195,322, or \$7.03 per ton.

Natural gas (M. cu. ft.), 112,678; valued at \$28,917, or \$0.25 per M. cu. ft.

The average period of operation for the brick and tile plants was 132 days in the year 1918. Many of the smaller plants operate in the summer months only. Employees numbered 1,027 and \$667,715 was the wage bill.

Pottery to the value of \$88,275 was manufactured giving employment to twenty-two workmen who were paid in wages \$22,061. A good refractory clay adaptable to the manufacture of chinaware and porcelain has been found at the foot of Long Portage on the Mattagami River. Similar clays have been found on the Missanaibi and Abitibi Rivers.

Three sewer pipe companies sold in 1918 sewer pipe having a value at the works of \$362,536. The number of employees was 171 and the wage bill \$139,775. Red burning Medina shale is used with a typical analysis as follows: silica 65.04, alumina 16.14, ferric oxide 6.37, lime .80, magnesia 2.17, soda .64, potash 3.21, sulphur .12, loss by heat 5.98

The following shows the comparative output of clay products in Ontario during the war years:

	Brick	
	Common	Pressed, Fancy and Hollow Tile
1914	\$2,336,207	\$894,384
1915	736,591	375,865
1916	509,559	495,895
1917	713,824	776,302
1918	665,454	592,286

Other Clay Products			
Pottery	Drain Tile	Sewer Pipe	Total
\$25,720	\$277,530	\$571,756	\$4,105,597
49,387	321,253	361,283	1,871,379
87,025	275,471	216,749	1,584,699
94,501	546,040	379,925	2,509,590
88,275	309,899	362,536	2,018,450

In 1917 there were 7,941 M sand-lime brick made and 9,079 M in 1918.

The following table gives additional information of production in 1918.

	Quantity	Value	Employees	Wages
Brick, fancy and pressed....	25,377 M	\$396,698	1,027	\$667,715
Brick, common	49,498 M	665,454		
Brick, sand, lime.....	7,941 M	91,508	68	35,577
Pottery		88,275	22	22,061
Sewer pipe		362,536	171	139,775
Tile, drain	13,087 M	309,899*		
Tile, hollow building.....		195,588*		

*Employees and wages included in brick.

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Shall the Government Establish a Department of Public Works?

The question of whether or not the federal government should establish a Department of Public Works was submitted on April 12 for a referendum vote to the 1,305 member organizations of the United States Chamber of Commerce. The result of the referendum will determine the National Chamber's attitude on this question when it comes up for Congressional action.

The committee appointed by the National Chamber to make a study of this matter drew up the following questions for submission:

1. Shall there be established by the national government a Department of Public Works?
2. Shall such Department be established by a suitable modification of the existing Department of Interior excluding therefrom the non-related bureaus or offices and by the change of name of the Department of Interior to the Department of Public Works?
3. Shall such department be established by the creation of an entirely new department?

The desirability of a federal Department of Public Works was suggested by the Engineering Council, an organization member of the National Chamber. The Engineering Council believes there is an urgent need in the national government for such a department to carry on the work of an engineering and construction character.

The Engineering Council has gone on record as favoring the adoption of the Jones-Reavis Bill, now pending in Congress, providing that the name of the executive department at present designated as "Department of Interior" be changed to the name of "Department of Public Works" and that the head thereof shall continue to be a member of the Cabinet under the official designation "Secretary of Public Works."

This bill would transfer much of the work now transacted by Bureaus under the Department of Interior to other departments and would also place additional bureaus under the new Department.

The committee appointed by the Chamber in making its recommendation did not pass upon the merits of the proposals embodied in the Jones-Reavis Bill. Instead, it sub-

mitted the three propositions for a referendum vote, one of which calls for an independent Department of Public Works.

Charles Nagel, formerly Secretary of Commerce and Labor, and honorary vice-president of the National Chamber, was chairman of the committee, the other members of which were: Samuel B. Botsford, Buffalo; J. Parke Channing, New York; L. S. Gillette, Minneapolis; Ira N. Hollis, Worcester, Mass.; Frederick H. Newell, Urbana, Ill.; William C. Redfield, New York City, formerly Secretary of the Department of Commerce; Frank A. Seiberling, Akron, Ohio; F. Harper Sibley, Rochester, N. Y.; M. C. Tuttle, Boston; William F. Willoughby, Washington.

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Belgium Fire Brick for Mexico Coke Ovens

Just before the assassination of President Francisco I. Madero, Jr., and the placing in power of Victoriana Huerta, who was in turn succeeded by Venustiano Carranza as president, plans were well advanced for the construction by Salvador Madero of many large coke ovens at his coal mines. The fire brick for these proposed ovens were made in Belgium according to special design and the shipment of the material arrived in Galveston, Tex., just after the surviving members of the Madero family had been exiled from Mexico by order of Carranza. The value of this material was approximately \$2,000,000 gold, and it is said to have been the largest and most expensive shipment of its kind ever destined for Mexico. The shipment was finally sent by rail to Eagle Pass in bond and there placed in storage, pending a betterment of internal conditions in Mexico. It is now announced that the long delayed plans for constructing the coke ovens are to be carried out and that the clay products which were brought from Belgium several years ago will be put to the use for which they were originally intended.

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Deflation is Bound to Be Slow

Reginald McKenna, former British Chancellor of Exchequer, stated in a recent address: "If I might hazard an opinion, it would be that prices will remain permanently on a far higher level than in 1914. Deflation is bound to be very slow. Any attempt to bring it about rapidly would cause wide-spread ruin among manufacturers and traders."

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Who and What I Am

I am your friend.
 I am the friend of labor.
 I am the friend of capital.
 I am the guiding hand of modern business.
 I am the foundation of success.
 I am the reason for increased demand.
 I am the cause of increased sales and net profits.
 I am the reason for increased stock turnover.
 I am the cause of reduced overhead expenses.
 I am the key to the rise in your profit curve.
 I am the why and wherefore of your growth and expansion.

I am the creator of good will, satisfied customers and repeat sales.

I am the guiding hand which tells the people who, what and where you are.

I am ADVERTISING—a truthful, concise presentation in word or picture of the merits of things you have to sell.

W. B. Wilson, Secretary United States Department of Labor.

Roger W. Babson, Director General Information and Educational Service.

The BUILDING SITUATION in the EAST

BUILDING WORK shows keen intention of forging ahead in practically all eastern cities, but is being fettered and handicapped on many sides. The railroad strike during the past fortnight has ushered in a congestion of freight that is bound to require some weeks to straighten out, and in the meantime building material manufacturers and dealers are likely to suffer. Stocks of supplies are getting very low in certain sections and when this condition prevails it means that those who would build can't build—they must wait their turn for materials. The bar to transportation has also lessened production, raw materials are held up enroute and the consequence is that this basic end of operations is now more than ever behind schedule.

The labor situation continues to remain in an unsettled state. Skilled men are hard to get even at existing wage scales, and those who are on the job are not showing any certain disposition to work. Petty strikes and annoyances prevail in many eastern centers; as soon as one branch of the trade becomes really operative and seemingly satisfied, another takes up the wage argument, and things are again held up. In order to go forward stability must come in the labor market, but when and where this condition will be evidenced is now a matter of conjecture.

Spring construction operations in various eastern cities are very encouraging up to the present time. The strong disposition to build, the urgent demand and necessity for building and indication of continuance are predominating features of the situation. Prices of materials and askings of labor are having no effect other than to "kill" a little enthusiasm, for building operations will go ahead despite numerous difficulties. The industry is too big to be jarred by a "little sand in the wheels"—it is going to get rid of the sand and the wheels are going to move.

WHAT THE CITIES ARE DOING—NEW YORK

When New York really builds as it wants to a building is erected every fifty odd minutes—this gives an idea of the scope and proportions of this wonderful metropolis. This record for construction is just what New York wants to keep up now, but circumstances are such that it can't. Each day brings hope of a better situation on the morrow and ere another month has come around, the rapid fire gait desired may be reached. There is a strong call for bricklayers and other workers in the building trades thruout the city. In accordance with the recent settlement of the strike among the bricklayers, the men have returned to work, but during the weeks that the trouble lasted many of the men left the city, to take up work elsewhere. And they haven't returned to their old jobs; this has brought about a positive shortage and held up work on a number of structures.

There is a serious shortage of a number of important building commodities in the New York market; near-famine conditions as now prevailing are likely to become of real famine nature if the embargoes on the shipments of supplies continue to hold. In the meantime it is a case of planning; architects and engineers are busy with prospective work, and there is enough of this in sight to last many, many weeks of actual construction. The workers in the building trades as a whole seem fairly well satisfied and no trouble is anticipated in this direction for the active building months to come.

While there has been considerable talk of housing operations at New York, a real action in this direction has been

wanting up to the present time. Certain boroughs of the city, however, are pushing work of this nature to good account and leading among these are Brooklyn and Queens. In the latter district no less than 745 operations were recorded in March, with estimated cost placed at \$4,700,800; this is an increase of about 100 per cent. over the valuations for buildings in this section in the corresponding month of last year. One, two and three family houses are the popular feature. The month of April shows equal proportions and a banner house building period will be rounded out with continuance of work on this scale.

NEW JERSEY

Newark continues to be the big city in construction work in New Jersey. The flourishing weeks in the months past, recorded from issue to issue in *Brick and Clay Record*, continue to hold at the same status. There is real activity in the industry hereabouts and handicaps are being booked in the best possible way to eliminate a curtailment of work. Operations for the two mid-weeks of April total \$832,891 and \$905,189, respectively. In other words, each week is producing totals close to the million mark, and indications are strong that this activity will hold thruout the season. A large part of local construction is devoted to factory and industrial work, altho new dwelling construction is picking up to a noticeable extent. School construction seems destined to occupy an important share of attention in the months to come as a budget of \$4,000,000 is being arranged by the Board of Education for new school buildings during the next two years.

A large volume of construction work is going forward in the Raritan River section of New Jersey. Such cities as Perth Amboy, South Amboy and New Brunswick are giving considerable attention to housing, with the result that numerous homes of all kinds are being erected. Building contractors in these districts report that they have more work on hand than can be handled with desired dispatch, and as for the material dealers—the answer is self-evident, they are more than busy.

PHILADELPHIA

Building operations at Philadelphia hold at a good firm pace. And this in rather contradiction to the fact that different interests in the industry hold that the situation is unsettled, with no definite certainty in the outlook. Figures tell more than casual remarks and a visit to the local building department shows that numerous plans are being filed daily for operations of all kinds. March building totals, aggregating over \$7,300,000, are likely to be exceeded when figures for April are compiled. Factory work has taken on an important aspect, and a good number of projects of this kind are now under way.

Housing operations, so much needed and desired in the Philadelphia district, are coming along in much better style; the past fortnight has brought a noticeable increase in this branch of construction, calling for large quantities of brick and other primary commodities. Moss & Taylor have arranged for the erection of seventy-two new homes on North Sixty-fifth Street, each two-story, about 20x35 ft., to cost in excess of \$700,000. Leary & Conway have had plans prepared for the construction of fourteen two-story, brick and stone dwellings, 18x54 ft., on McCallum Street. Other developments include twenty three-story homes to be

erected by the Kelly Construction Co., on Fairhill Street, to cost about \$14,000 each; eleven two-story dwellings on Mascher Street, to be erected by Carl A. Meyer; and fifteen three-story dwellings for the Philadelphia Housing Corporation on Greene Street, Washington Lane and Tulpehocken Avenue, to cost about \$20,000 each.

WILMINGTON

The past fortnight has shown decided increase in construction activities at Wilmington, Del. The spring season is bringing forward some interesting developments and the next few months seem destined to be busy ones in this vicinity. For the mid-week in April, plans filed at the local building department reached a total of \$337,974; a considerable portion of this work covers offices, public buildings, factories and miscellaneous structures. And all of this rather than housing developments which are so badly needed in this city. On this latter score there is not much relief in sight, but hope is expressed that the coming weeks will bring a change in the situation. The Mayor's Committee on Housing is being retarded in its anticipated plans thru shortage of funds, and a development of temporary houses is being considered by this committee to help conditions.

The state legislature, Delaware, has passed a bill giving the city council of Wilmington the right to license builders operating in the municipality. Governor Townsend has been asked to approve the measure promptly, it being held that such a law will accomplish considerable good. It is said that men have entered the industry in this district who are not fitted to construct buildings and that legitimate contractors are handicapped thru such activities. Under the present law there is no way to prevent these men from operating and securing permits for work.

BALTIMORE

The motto in the Baltimore district is "Build—and Build Now." It is more than an expression, it is an actual reality. Construction work of all kinds is being launched and projects are reaching gratifying and encouraging proportions. The work includes apartments and dwellings, industrial developments, factories, public buildings and the like; in the Brooklyn, Fairfield and Curtis Bay sections large industrial operations are calling for extensive quantities of brick, burned clay and other materials, and costs are reaching well into the millions. In the matter of housing, that favorite material, brick, is being used also in large volume; during the past fortnight, plans for a number of blocks of development of this kind have been filed, including a total of fifty-one two-story brick dwellings for the E. J. Gallagher Realty Co., at Darley and Sherwood Avenues and Aiken Street; thirty-two houses of similar type for Joseph F. Hirt & Co., on Linden Avenue; and thirteen two-story brick homes for Cleveland R. Balmear, at Ridge Street and Towanda Avenue. These projects will cost about \$200,000, collectively.

Activities and demands of bricklayers at Baltimore, Md., are bringing no little attention. Skilled men of this kind working for the Highway Department of the city are now receiving \$1.50 an hour, in accordance with a scale approved by the Board of Estimates; luckily for the city, there are not very many men engaged in this line. Bricklayers working on industrial projects in the Brooklyn and Curtis Bay districts have developed a plan to increase the wage scale for actual work done. These men, operating under the established union rate of \$1.25 an hour, are now asking for the working day to commence at the time of their arrival at the Hanover Street bridge, about 15 minutes distant from point of operation, and for the day to end on their arrival here at night. This means eight hours pay for about seven and one-half hours of actual labor.

WASHINGTON

Spring building activities have commenced rather in earnest at the nation's capitol. It is housing work, pure and simple; the city needs it, and the call for new homes is so keen that houses are sold long before completed. Local construction in this line is aggregating close to \$500,000 a week, and this pace seems likely to maintain for many weeks to come. Irvin & Shank, local realty dealers, are developing a section known as Glendale, in the northeastern section of the city, and have plans under way for the erection of 200 homes at this place. It is proposed to construct at least 50 of these, including houses and bungalows, during the present season. There is a strong call for brick and other building materials of all kinds; local producers of common brick with plants in Virginia on the other side of the Potomac River, report large shipments thruout the district, these, for the most part being made by motor truck. Dealers in hollow tile and kindred specialties are kept equally busy in answering the demand, and prices of basic structural commodities are having no effect on the situation.



The Brick and Burned Clay Markets

Dealers in brick and other burned clay products in different eastern centers report a brisk call for material. It is a demand that is most encouraging in showing the trend of real construction activity, but it is likely to be stifled thru a shortage of stocks. In a number of cities the situation is little distant from the critical point. The drain on supplies has not been covered; the barren condition of freight car supply coupled with the railroad strike have brought about a reaction in even a month's overdue orders—now it is anywhere from four to six and eight weeks' since shipments of any account have been received in some sections. If relief is going to come, it must be soon, for a number of important construction operations at New York and elsewhere are being held up simply thru the inability to secure materials.

The demand for common brick at New York is good, with price holding firm at \$25.00 a thousand in wholesale quantities, alongside dock. Greater movement in brick would have taken place in this city during the past fortnight but for the fact that drivers of trucks for the various material dealers are now out on strike for higher wages. Brick unloaders have declared a strike in sympathy with the drivers and helpers, and at the same time are making a demand for 25 cents a thousand increase; the rates now being paid totals about \$80.00 per 100,000 brick, requiring a crew of six men for a period of from seven to eight hours. Brick handlers at the docks have refused to deliver any brick to drivers of trucks not wearing union buttons—so there the situation stands.

There is little or no change in the price of common brick at different important eastern cities. At New York, the figure holds at \$30.45 per thousand on the job. At Newark, N. J., the price is \$32.00 on the job, and material is very scarce in this district. In the Jersey City, N. J., region, the material is selling at wholesale at \$25.00 in large quantities, and at \$28.00 for delivery at the yard. At Trenton, N. J., a price of \$25.00 holds, while a similar figure prevails across the river at Philadelphia, Pa., Wilmington, Del., dealers are turning the material for \$25.00 a thousand, delivered on the job, while a dollar less is being asked by producers in the Baltimore, Md., districts. Out-of-town brick is being quoted as high as \$30.00 a thousand by some of the dealers hereabouts. At Washington, a popular price is \$23.00 delivered.

Burned clay products are operating under a heavy call in various eastern centers, and with great scarcity in various commodities. At New York, the situation is such that there

are no quotations on partition tile at this writing, while other terra cotta structural materials are attaining a like condition. Face brick at New York is selling for from \$37.00 upwards, delivered on the job; smooth and rough grays are quoted at \$45.00 delivered. Similar prices for face brick prevail at Newark, N. J., while partition tile of 4x12x12 in. size is selling for slightly over \$200.00 per 1,000 sq. ft. in this city. These quotations can be taken as basic figures for the tendency of these specialties at Philadelphia, Wilmington and Baltimore.



With the Brick and Burned Clay Producers

It is a little too early to prophesy what brick production will be in the Hudson River district during the coming season. While it hinges on the market, the indications here are for a continuance of active call, and this would seem to warrant capacity output. Labor, however, is the element that must be considered, and some yards in this section are just recovering from a few weeks strike of the men for higher wages; but this is no novelty—it is getting to be a regular occurrence in this section every spring. Labor has been scarce hereabouts for some time past, including all of last season, and the indications are that the supply during the coming months will be none too plentiful. Fairly good shipments of material are going forward to the New York market, now averaging well over 20 cargoes per week.

Brick production has been inaugurated in the Hackensack district of New Jersey, and producers in this section are very optimistic, holding to the belief that the entire season's output will be turned to profitable account with market conditions holding around the present level. Wholesale brick at \$25.00 is the popular thing at the present time, and this figure is expected to hold for some weeks to come. Trenton is also active in the brick producing line, and the different seasonal yards have now started up.

Two new brick manufacturing companies have been organized in New York. The Monarch Brick Co., New York City, has been formed with a capital of \$50,000, to manufacture common brick; the company is headed by J. Briskman, B. Leibowitz and I. Steinberg, 1381 Eastern Parkway, Brooklyn. The other organization is known as the Bison Brick Co., with headquarters at Buffalo, N. Y. It has a capital of \$25,000, and will engage in common brick production; those interested include W. J. Hughes, P. T. O'Malley and T. E. Boyd.

A portion of the clay grinding plant of the Golding Sons Co., near Wilmington, Del., was destroyed by fire, April 21, with loss estimated at \$10,000. This company specializes in flint, spar and high-grade clays for pottery service and maintains headquarters at 217 South Warren Street.

O. W. Ketcham, Philadelphia, manufacturer of terra cotta products and one of the largest local dealers in high-grade face brick, reports a good call for the last noted material and for hollow tile products of various kinds. Face brick is quoted at from \$40.00 to \$50.00 per thousand, depending on the grade and selection. Enameled brick, American size, is being sold at \$125.00. In discussing conditions, the company mentions the grave situation brought about by the car shortage, and says that deliveries are growing worse and worse. Relief is hoped for in this direction, but there is no certainty of improvement at this time. The railroad strike, of course, has gone to make the situation doubly bad during the past few weeks.

The Baltimore Brick Co., Maryland Trust Building, Baltimore, Md., has completed plans for the erection of a one-story addition at one of its plants, to be about 40x100 ft. Bids are now being taken for erection. This work is in connection with the expansion plans of the company referred to in a previous issue of *Brick and Clay Record*.

The Harbison-Walker Refractories Co., Pittsburgh, Pa., is arranging for an increase in its capitalization from \$27,600,000 to \$36,000,000. A special meeting of stockholders will be held on June 23 for this purpose. The company has declared a 50 per cent. dividend on its common stock.

The Clayton Brick & Tile Co., Wilmington, Del., has been incorporated with a capital of \$250,000. The company will manufacture common brick, building tile and other burned clay specialties. The local incorporators are M. A. Bruce, T. L. Croteau and S. E. Dill.

The Hazleton Brick Co., Hazleton, Pa., is considering plans for the erection of an addition to its plant for increased operations. The proposed structure will be of brick, and is estimated to cost about \$30,000. H. L. Campbell is vice-president and manager.

The Kittanning Brick Co., Pittsburgh, Pa., has been organized with a nominal capital of \$5,000 to manufacture common and face brick. D. L. McConaughy is treasurer of the company.

The Phillips-Harper Co., Trenton, N. J., is recording a nice quantity of spring orders for brick and other burned clay products. The company handles a broad line of material of this character, including face brick, paving brick hollow building tile, drain tile and so on. It operates its own hollow tile plant in the vicinity of Hightstown, N. J. Recent contracts include brick for the new addition to the plant of the Ajax Rubber Co., Trenton; material for the construction of the Ritz-Carlton Hotel, Atlantic City; and a large order for brick and other materials for the addition to the plant of the Simmons Co., Bay Way, vicinity of Elizabeth, N. J.

The Chesapeake Fire Brick Co., Elkton, Md., recently incorporated by Philadelphia, Pa., interests with capital of \$250,000, is planning for the establishment of a plant in this vicinity. Options have been secured on the former works of the Scott Fertilizer Co., fronting on the Elk River, and negotiations are under way for the purchase of clay properties in this section. The company proposes to manufacture high-grade fire brick and other refractories. George S. Hoell, Colonial Trust Building, Philadelphia, is president of the company, and Herbert L. Morris, secretary.

Ceramic plants in the Raritan River section of New Jersey have been rather "hard hit" with the car shortage and embargo placed upon freight. A number of factories have not only been unable to secure raw materials, but production of the past few weeks is stocked high in the warehouses, and there is no apparent relief in sight. The situation is bringing a necessary curtailment in operations; while builders in other cities are calling loudly for material, it is held here, and much against the will of all concerned. The plant of the General Ceramics Co., Metuchen, N. J., specializing in the manufacture of sanitary ware is among the works to feel the serious effects of the handicap.

At a recent meeting of the Frederick Brick Co., Frederick, Md., directors were elected for the ensuing year, these including Frank C. Norwood, Henry Trail, Charles C. Carty, Claggett E. Ramsburg and George T. Baumgardner.

Active work has been inaugurated by the Clay Products Co. of America on its proposed new vitrified brick manufacturing plant at New Hope, Pa. As recorded in a recent issue of *Brick and Clay Record*, the company has acquired extensive property, comprising about 260 acres of land on the Eastburn Reeder Estate, and additional property consisting of about 23 acres of land has been purchased from F. G. Rhoades; this latter site is in the vicinity of the yards of the Philadelphia & Reading Railroad. With other acquisitions, the company has a large tract of shale land, suitable for high-grade brick production. The initial works will comprise a plant of temporary nature, and used primarily for the manufacture of brick to be used in the permanent works; grading work is under way and erection will be com-

menced at an early date. The company is also planning for an extensive housing development for employes, to consist of about 100 brick houses on the York Road, near the Huffleagle Station. This organization is an Ohio corporation, headed by R. C. Burton, Zanesville. Samuel G. Davis will act as local manager at New Hope, and will be in charge of production.

The brick manufacturing plant of the Conococheague Brick Co., Williamsport, Pa., was damaged by fire on April 19, with loss estimated at about \$4,000.

A new company to be known as the Endure Porcelain Enameling Co., has been organized at Middletown, Pa., to operate a local plant for the manufacture of sanitary porcelain specialties. The company is headed by officials of the Wingate Stove Works, a Middletown industry. A building has been purchased on Brown Street, and this will be remodeled and extended to suit the new line of production. It is proposed to have the new plant ready for service early in September, with facilities and equipment to give employment to about 200 persons for initial operations.

A new refractories company has been organized at Dover, Del., to be known as the Kentucky Refractories Co., with headquarters at Russell, Ky. The company will engage in the mining of high-grade Kentucky clays, and also proposes to operate a plant for the manufacture of refractories. Clyde K. Turly and D. E. Ernst, Russell, head the organization.

* * *

Exports of Ceramic Products—1919

Statistics have been compiled by the Department of Commerce, Washington, showing the exports of brick, chinaware and other ceramic products in 1919, including all ports of shipment. These figures are of more than ordinary interest, and particularly so in connection with a comparison of the results of similar activities in former years. A noticeable increase in shipments to foreign countries is evidenced in the different standard lines of burned clay specialties, closely attaining in aggregate valuation the figures of 1917.

In 1918, there was a decline in exports of practically all commodities of this nature, even including fire brick in matter of quantity. The increased cost, however, served to bring about a corresponding advance in the total aggregate valuation; this was well over a million dollars as compared with the figures of 1917, and more than a million and a quarter as against the totals for 1919.

The exports of fire brick have been a predominating feature during each of the three years noted. The shipments in 1917 were 101,535,000, with estimated valuation of \$4,011,546; in 1918, the exports dropped to 89,608,000 in volume, but the value increased to \$5,001,057; while in 1919 the shipments again declined, reaching 51,252,000, with corresponding decrease in valuation to \$2,747,512.

A brief study of the tabulations noted below shows that the increased cost of fire brick was responsible for the large total value in exports in 1918, the figures for this commodity being almost two-thirds of the gross amount.

	1919			1918			1917	
	Quantity (M)	Value	:	Quantity (M)	Value	:	Quantity (M)	Value
Building brick	12,169	\$ 248,690		6,679	\$ 117,263		12,172	\$ 196,207
Fire brick	51,252	2,747,512		89,608	5,001,057		101,535	4,011,546
Chinaware		523,861			318,448			422,641
Earthen and stoneware.....		1,148,051			783,577			805,784
Sanitary earthenware		563,734			377,527			323,558
Tile (except drain).....		628,836			582,051			450,422
All other products.....		721,600			752,651			743,105
Total		\$6,582,284			\$7,932,574			\$6,953,263

Extent of Clay Products Industry

In connection with the export operations of American manufacturers of burned clay products, it is interesting to note that in a recent report, covering the year just past, the Bureau of Mines sets forth that the number of concerns in this line closely approximates 4,000, representing a total investment of about \$375,000,000. The value of clay products produced in the United States now ranges in excess of \$200,000,000 per annum. Approximately 75 per cent. of this represents brick, tile and other structural materials, and the remainder the higher grade of ceramic classed as pottery.

The six leading states in order of production of clay products are set forth as Ohio, Pennsylvania, New Jersey, Illinois, New York and Indiana. The value of the output of these states exceeds \$135,000,000, or about 68 per cent. of the total domestic production. The first noted state, Ohio, produces annually material of this character to the value of more than \$45,000,000, or about 22 per cent. of the nation's output. There are more than 600 ceramic plants in this state, with total investment in the business closely approximating \$50,000,000.

* * *

Industrial Society to Meet in Rochester

Many industrial leaders will be present and take part in an important meeting of the Taylor Society, the national organization for the promotion of scientific management in industry, which is to be held May 6, 7 and 8 at Rochester, N. Y. Authoritative papers are to be presented and the round table conferences will cover every phase of labor, production, management and industrial relations, including sales promotion and office operations. The president of the Taylor Society is Henry S. Dennison, who was a member of President Wilson's National Industrial Conference. Mr. Dennison is president of the Dennison Manufacturing Co., of Framingham, Mass., and is widely known as a progressive employer. The Taylor Society maintains a clearing house for information on industrial problems.

* * *

Comments on Iowa Tile Situation

Iowa farmers are recognizing the value of tile for draining undesirable land to such an extent that tile is getting very scarce. A. W. Turner, agricultural engineer, has found that the factories are working night and day to produce the tile and advises farmers who contemplate tiling this season to get the order in early.

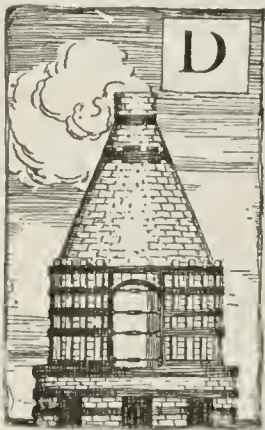
"With the high prices of land prevailing," says Mr. Turner, "everybody who has a wet land is seeking tile to dry it out. There is not much difference in clay or concrete tile, if both are made right. Open ditches are all right for carrying off surface water, but not satisfactory in the long run. The ditches will fill up and weeds will grow along them. It is much more satisfactory to put a tile in the ditch and cover it up. This aids in the cultivation of the field as well."

FINE CERAMIC MANUFACTURE



A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products Such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

MOSAIC TILING—A TOUCH OF REAL CERAMIC ART



DISTINCTIVE ART in burned clay production is found in manufacture of mosaics. In this branch of activity, the commercial phases of business, as we know it, are supplanted by the higher artistic sense; the maze of dollars is lost in the far more mystic and interesting maze of the wondrous possibilities of fine ceramics—the almost hidden mysteries, constantly being brought to light, that clay in the raw state holds when mixed, burned, colored and fired under the adept hand and scrutiny of the finished artist.

The manufacture of mosaics, if of right character and worthy of the term, carries with it an individual touch of real ceramic art; it is burned clay blended with brains, and the latter in no small measure. The result shows the handicraft that comes with broad and seasoned experience, and is evidenced not only in design and glazes, but in body features and other miscellaneous, yet fundamental, points.

Mosaic production has reached a high point of perfection in certain quarters of ceramic work. Manufacturers of material of this character are much in the minority, very few and far between; those that are known, or even fairly well known, can be counted almost on one hand—absolutely on two. Whether this is because the returns are not commensurate with the requirements of production, or whether real ceramic artists are seeking other channels of operation for a fulfillment of their talents, or, again, are so very, very few, is a matter with no satisfactory decision. It is guesswork to surmise either way, but the fact remains that production, as regards volume of competition, is minimized.

The field, however, is vast. It might well be termed one of the undeveloped branches of ceramic activity, for while other phases of burned clay production are still in this same state, the aspect here seems endless, just as designs in mosaics are of limitless variety. What is needed is promotion, real promotion, and in a way to educate the classes and the masses to the infinite beauty to be obtained in tiling of this nature, its cleanliness, utility and unquestioned value in various features of construction—public buildings, fine homes, institutions, and so on almost indefinitely. Mosaics have their place, leading architects know it, and others should be made to know. Ceramic art will then attain a still higher plane than where it reaches today; every year is showing remarkable

progress in many ways, and utmost appreciation for mosaics is bound to come.

MUELLER MOSAIC COMPANY

Among the few concerns in the manufacture of mosaics and one ranking high in this line is the Mueller Mosaic Co. of Trenton, N. J. This company has done some exquisite work and its executions are to be seen in important structures in all parts of the country. The production covers artistic and practical tiling for floors, walls and wainscoting, exteriors and interiors. All tiles are handmade, and in endless selection of shape and color, texture and arrangement.

At this plant quality stands uppermost; it is the first and primary consideration. Herman C. Mueller, head of the company, gives personal time and attention to the business—it is his hobby, and his laboratory shows it. Here he works incessantly, and the results in this department bear evidence in the output of the plant. Something new is constantly being sought after and developed, and to “play with clay” is not only the day’s work for Mr. Mueller, but his life’s work, and incidentally, his delight.

CHARACTER OF PRODUCTION

The character of production at this plant, with which this article deals, is particularly interesting in showing just what the high-grade mosaic factory strives to accomplish. The different specialties may be classed under the heads of Faience Roman Mosaics, Norman Flashed Mosaic, Faience Tile, Faience Art Tile, and Flemish Tiling.

And, to make the story complete, let us fully understand the meaning of the term “mosaic.” In the language of the Standard Dictionary this is set forth as follows:

“A kind of tessellated or inlaid work composed of bits, squares or cubes of stone, glass, enamel, etc., combined so as to form an artistic pattern for wall decoration or pavements, and used also for other purposes, as for table tops or jewelry.”

FAIENCE ROMAN MOSAICS

This material at the Mueller works is produced in $\frac{3}{4}$ and $\frac{1}{2}$ -inch squares, and 1 inch by $\frac{1}{2}$ -inch herring-bone shape. Mosaics of this character have found a broad application in wainscots, either used thruout, or in conjunction with tile of larger sizes. The material is distinctly artistic, with range of design and color practically unlimited.

Modern swimming pools are utilizing this type of lining with exceptional results. In this, the tile is set on a concrete base, and in a way so that there can be no separation of tile or mortar. The Mueller company has made a specialty of work of this nature, furnishing material for pools at White Sulphur Springs, W. Va., at Asbury Park, N. J., and for Y. M. C. A. buildings in various parts of the country.

NORMAN FLASHED MOSAIC

The tile produced under this name is among the most artistic mosaics to be secured; it shows the flashes of the natural colored clays, and its mellow coloring lends a refined and dignified atmosphere. The play of the flames in the burning is brought out in an exquisite manner.

Mosaics of this character are particularly suitable for

church aisles or places where a quiet, quaint effect is desired.

FAIENCE TILE

This tile is really divided into two classes, or hand-made faience tile and dust-pressed faience tile. This material is manufactured in a wide variety of colors, and which is the same for both classes of tile, altho the hand-made products are noticeable richer in appearance.

This latter tile, the hand-made, has exceptional frost-proof qualities and is therefore used extensively for exterior work; it is also suitable for floors which are not subjected to excessive traffic. It is a strong product and correctly laid will last for generations to come.

The dust-pressed faience tile is employed primarily for interior work, such as for walls, mantels, etc. It is machine made and accordingly accurate in mechanical points, suitable for many different interior installations.

FAIENCE ART TILE

To provide for the proper handling of intricate and special designs, the company has adopted systems of inlaying faience colors in various manners, termed "Faience Art Tile." In some cases, the ornament is depressed in the surface of the tile and the faience enamels inlaid, while in other instances, the contour is marked on the face of the tile, and the enamels painted between the lines.

In work of larger scope, the various colored parts of the design are cut according to the outline, and the various pieces thus formed are covered separately with the enamels. This is based on the style of the Florentine mosaics and is very effective, especially for exterior decorative work. This system permits the company to furnish designs of every possible magnitude.

One of the finest executions of the organization in this line is the well known pavilion on the Garden Pier at Atlantic City, N. J.

FLEMISH TILING

The flemish tiling manufactured by the company is an important development. It outclasses in beauty clay tile of other type and has defined characteristics of attainment. It is hand-made, formed of plastic clay. The color is derived thru the natural shades of the various clays, and the play of the flames in burning the material. It has great variation, consequently, in texture, improving upon the rather coarseness and monotony of so-called quarry tile.

The medieval character of the material makes it an ideal one for flooring purposes for churches, where it is desired to introduce ecclesiastical patterns. Also, it is used extensively in grill rooms, hotels, lobbies, etc.

This style of tiling is produced in three colors—red, gray and buff, and all having the same color values. Fine combinations can be secured thru the use of these in conjunction, for borders, panels and the like. The tile, for the most part, contain ornamental inlays of faience colors, and further decorative effects can readily be obtained by inserting ornamental tile. The texture consists of a tesserae of tile as small as one inch squares, and the material is very hard, resisting and frost proof. With the latter qualifications it is distinctly suitable for outside work, including porches, terraces and the like.

The company has executed some handsome work with tiling of this character, including the Manufacturers' Club, Philadelphia; Garden Pier flooring, Atlantic City; Mason Hotel, Jacksonville, Fla.; and the Church of the Lady of Victory, Philadelphia. The grill-room of the first noted building, Manufacturers' Club, utilizes this flemish tile with faience inserts for the floor, while the Garden Pier Theater, Atlantic City, has walls of flemish tile and faience, with floor of flemish herringbone tile.

In passing, it is interesting to note that the company has specialized extensively in the production of tile signs, utilizing faience tile in the Florentine manner. A sign of this nature is practically indestructible; it will retain its brilliant coloring for time to come, and any style of lettering desired can be obtained. These letters can be of tile background, or in a field of other suitable material.

The accompanying illustration shows an interesting faience tile fountain as manufactured by the company. This picture was taken upon assembling at the plant, prior to shipment to another city for use in a theater building. For this reason it is not entirely true in alignment as would be the case when set in place. It shows the character of work, however, and the perfect harmony secured in design execution.



To Increase Pottery Construction

Plans for extending its activities, to make for greatly increased production, are now being made by the Bedford China Co., Cleveland, Ohio. Distribution headquarters have been established with the Brown-Reddrop Co., this city. The plant, with a six kiln capacity, shortly will be increased to seven kilns, the new kiln having already been started in construction. The plant will be concentrated upon the production of vitrified hotel china in brown and white, and for which there is a tremendous demand, according to C. R. C. Brown, director.



Beautiful Tile Fountain Assembled at Plant Preparatory to Shipping. It Is Not True in Alignment as Will be the Case When It Is Set Permanently in Place.

Preparations have been completed, with the installation of additional jiggersmen, for the daily production of 1,000 dozen mugs a day, a production that will have no equal,

it is believed by officers of the company. This will be possible by running this production thru the continuous kiln. A new compartment plate will be added to the lines.

All efforts of the plant will be concentrated upon production of two decorated lines, because of the huge volume of business being placed in these items.

All jobbers in the country now will be supplied with these lines, and shipments of carload lots to the Pacific Coast have been made during the last few weeks.

The production will be under the direction of Harry Bailey, formerly of the Shenango Pottery Co., New Castle, Pa., and now general manager at the Bedford plant.

During the last month \$55,000 material was shipped from this plant, and a correspondingly big volume of business has been booked for several months ahead.

* * *

Results of Some Tests on Refractories

According to a report of a meeting of chemists held in the East recently, an account of which appeared in "Chemical and Metallurgical Engineering," the research laboratory of the Carborundum Co. presented two papers on refractories by M. L. Hartmann and O. A. Hougen.

The first paper was on "Spalling Losses" and covered comparative tests of the resistances of twelve different kinds of refractory brick exposed to rapid cooling by an air blast after heating to 1,350 deg. C. This cooling was repeated up to ten treatments with nine brick, while three were completely disintegrated at the seventh, fourth and third treatments. The results of all tests are summarized in the following table:

	Spalling at End of	Per Cent.
1. Bonded carborundum (carbofrax C).....	10th cooling	0.3
2. Bonded carborundum (carbofrax B).....	10th cooling	6
3. Bonded carborundum (carbofrax C).....	10th cooling	8
4. Grade A fire clay.....	10th cooling	9
5. Recrystallized carborundum (refrax).....	10th cooling	12
6. Bauxite	10th cooling	43
7. Zirconia (natural)	10th cooling	53
8. Grade B fire clay.....	10th cooling	65
9. Grade C fire clay.....	10th cooling	90
10. Chrome	7th cooling	100
11. Silica	4th cooling	100
12. Magnesia	3rd cooling	100

From five to ten brick were used in each test. These were purchased in the open market and undoubtedly do not give absolute results for the various types of refractories. The general order of magnitude of spalling is probably correct, however.

The second paper was based on "Comparative Cold and Hot Abrasion Tests." These tests were made on different kinds of refractory materials, at ordinary temperatures and at 1,350 deg. C., by a carborundum cutting wheel under a constant pressure, and measuring the depth abraded in a given time. The results are summarized in the following table. While the figures are only roughly quantitative, they indicate the general relative resistances of these materials to abrasion. The samples were tested hot at 1,350 deg. C. at the start for a five-minute period.

	Abrasion inches.
1. Bonded carborundum (carbofrax C).....	0.01
2. Bonded carborundum (carbofrax A).....	0.01
3. Bonded carborundum (carbofrax B).....	0.03
4. Bauxite	0.04
5. Zirconia (natural)	0.06
6. Recrystallized carborundum (refrax).....	0.07
7. Grade C fire clay.....	0.07
8. Grade B fire clay.....	0.09
9. Grade A fire clay.....	0.11
10. Chrome	0.27
11. Magnesia	12.50
12. Silica (lim. bonded) spalled too badly for measurement.	

In discussing these two papers, reference was made to the change in crystalline structure of certain brick, in particular magnesite, which would naturally affect the spalling tendency. Furthermore, since the heat conductivity of the various brick tested is widely different, the carborundum wheel test for abrasion does not seem to be satisfactory. Possibly a sand-blast test would be more reliable.

* * *

Increase Use of Motor Truck Delivery

The past fortnight has been a distressing one for the potteries at Trenton, N. J., due to the railroad strike. Inability to secure raw material caused a temporary shut-down in the pressing departments of a number of the leading sanitary ware plants, and other potteries have been operating literally "on edge." The coal situation, which has been a handicap in this section for some time past, has been made worse by the inability for train movements, and thus bringing about still more unsettled conditions. Truck transportation has been resorted to in many instances, and the real value of motor trucks is becoming more and more apparent. Among the potteries temporarily affected was the Monument Pottery Co., which had a large shipment of clay in transit; all departments of this plant with the exception of the pressing room, giving employment to about 50 men, were continued in operation.

* * *

Organize Subsidiary Pottery Concern

Officials of the Trenton Potteries Co., Trenton, N. J., manufacturer of sanitary ware, have organized a new company to be known as the Mutual Potteries Co., with a capitalization of \$1,000,000. The new organization will be conducted as a subsidiary to engage in a similar line of manufacture. It is proposed to build local plant for the concern. The company is headed by John A. Campbell, president of the Trenton Potteries Co.; others interested, associated with the parent company noted, are Charles E. Lawton and Elzey S. Aitken.

The Trenton Potteries Co., has filed plans for a one-story brick addition to its plant on New York Avenue, including as well, alterations and improvements in an existing structure. The work will cost about \$4,500.

* * *

Porcelain Insulator Concern to Build

The Locke Insulator Mfg. Co., Victor, N. Y., manufacturer of porcelain insulators for high-tension electric service, has awarded a contract to J. H. Miller, Inc., Eutaw and Franklin Streets, Baltimore, Md., for the erection of its proposed new plant at this latter city, announced in a previous issue of *Brick and Clay Record*. The initial plant will consist of two one and two-story, brick and concrete buildings, with about 24 kilns; it will be located on Light Street, and with equipment is estimated to cost in excess of \$500,000. At its plant at LeRoy, N. Y., the company will build two new kilns, contract for which has now been let.

* * *

Pottery Plant Building Addition

The Lambertville Pottery Co., Lambertville, N. J., manufacturer of sanitary earthenware, is building a one-story addition to its plant for increased operations. The structure will be 30x150 ft., and will include kiln and other departments; it will be located on North Union Street. Andrew Faltz, president of the company, has been very active in connection with the project for a new ceramic building at

Rutgers College, New Brunswick, N. J., and is entitled to great credit for the success of the bill in the state legislature.

* * *

Adopt Daylight Saving Plan at Pottery

Effective May 1, the Thomas Maddock's Sons Co., Trenton, N. J., manufacturer of sanitary earthenware, will adopt a daylight saving schedule at its plant. The city is arranging for a similar measure covering the entire municipality, but pending the outcome of this act, the Maddock works will engage as an individual establishment. The plant will operate from 6:00 a. m. to 4:00 p. m., with usual noon hour. The Trenton Potteries Co. is also planning for the adoption of a similar plan at its works.

* * *

Pressers Not Satisfied With Wages

The Cook Pottery Co., Prospect Street, Trenton, N. J., manufacturer of electrical porcelain specialties, has been experiencing a little trouble with pressers at the plant. The men asked for an increase in wages and altho granted an advance by officials of the company, it did not meet with the full approval of the workers. About fifty men are employed in the department.

* * *

Southern Potteries Incorporated

The Southern Potteries, of Unicoi County, East Tennessee, has filed a charter at Nashville. The capital stock is \$300,000 and the incorporators, C. C. Weisfield, J. W. Mackey and E. A. Vance.

* * *

Sanitary Plant to Erect Plant

The Bellmark Co., Trenton, N. J., manufacturer of sanitary earthenware, will build a one-story building at its plant on New York Avenue to cost about \$4,000.

* * *

Well Known Potter Passes Away at Niles

On April 8, H. P. Knoblock, aged 62, manager of the Potters' Co-Operative Co.'s pottery at East Liverpool, Ohio, died at his home in Niles. Mr. Knoblock, who had been interested in the pottery business for 25 years, had been in ill health for several months. He is survived by a widow and one daughter.

* * *

Veteran Pottery Manufacturer Dies

Samuel Leonard, for many years a pottery manufacturer located at Rahway, N. J., died at the home of his daughter, Mrs. Harold Gordon, on Washington Street, in that city on April 11, aged 88 years. He was a native of Elizabeth, N. J., but resided for the greater part of his life at Rahway.

* * *

Simon Mack & Sons, Inc., Elizabeth, N. J., has been incorporated with a capital of \$25,000 to deal in chinaware specialties. The company is headed by Simon, Peter and Edward Mack, all of Elizabeth.

* * *

Texas Clay Products Industry Flourishing

According to statistics that have just been compiled, the clay products industry in Texas is in flourishing condition.

The statement shows that there are now in the State 115 brick, tile and pottery plants. The 1918 production was \$3,026,559; the twelfth largest for any State in the Union. Since then there has been a large increase in the value of this product but the exact figures for last year are not yet available. Clays suitable for the manufacture of clay products are distributed over the entire state. It is stated that some of the finest pottery and brick clay in the country is to be had in Texas. The rapidly decreasing supply of available timber suitable for lumber and the increased building operations have caused an increase in the demand for the State's clay products.

There are in the State but two companies manufacturing glass and two engaged in the production of silica sand of glass-making qualities. One of the sand deposits is being developed at Santa Anna and the other at Athens. High grade sand, very pure and almost soft enough to be termed pack sand, is to be had from these deposits.

Only seven cement companies are in operation in the State of Texas. Five of these are Portland cement plants. The estimated annual production is between four and five million barrels.

Other materials and minerals that occur in workable deposits are fuller's earth. Texas ranks fourth in production of this material. Limestone, marble and granite are quarried in Texas on an increasing scale.

* * *

Concrete Best for Mill Construction?

Under the title of "Concrete Best for Mill Construction" a New York daily newspaper published a long item which incorporated part of a paper read before a group of manufacturers in Boston. The item should be of some interest to brick manufacturers for the reason that it shows that when things tighten up again, we might expect some keen competition with other building materials. The article is reprinted partly below:

"The design of textile plants has followed the development of power and transportation facilities, and has been greatly influenced by changing conditions in prices of raw material and labor," said James E. Serrine, of Greenville, S. C., in a paper on recent changes in mill design read before the National Association of Cotton Manufacturers.

"With the last decade the constantly increasing price of brick and lumber, together with the growing scarcity of the latter, has forced the industry to look for other classes of materials and, within the last few years there has been a large increase in the amount of reinforced concrete used for mill buildings.

"On today's market for labor and materials, the reinforced concrete buildings cost practically no more than the ordinary type of slow burning construction, with the advantage wholly in favor of the former, both in matter of light and stability. More recent designs are of the flat slab type, which gives a room without beams and with about half the usual number of columns, etc."

* * *

Who Says Pre-War Standards of Production Are a Thing of the Past?

All former records for monthly and daily production were broken by the Laclede-Christy Clay Products Co., of St. Louis, Mo., recently when 15,864 tons of burned clay were produced in the month of March and in one twenty-four-hour period, 865 tons were turned out. In addition to this, the tonnage per man was higher than for any previous month.

The SUPERINTENDENT

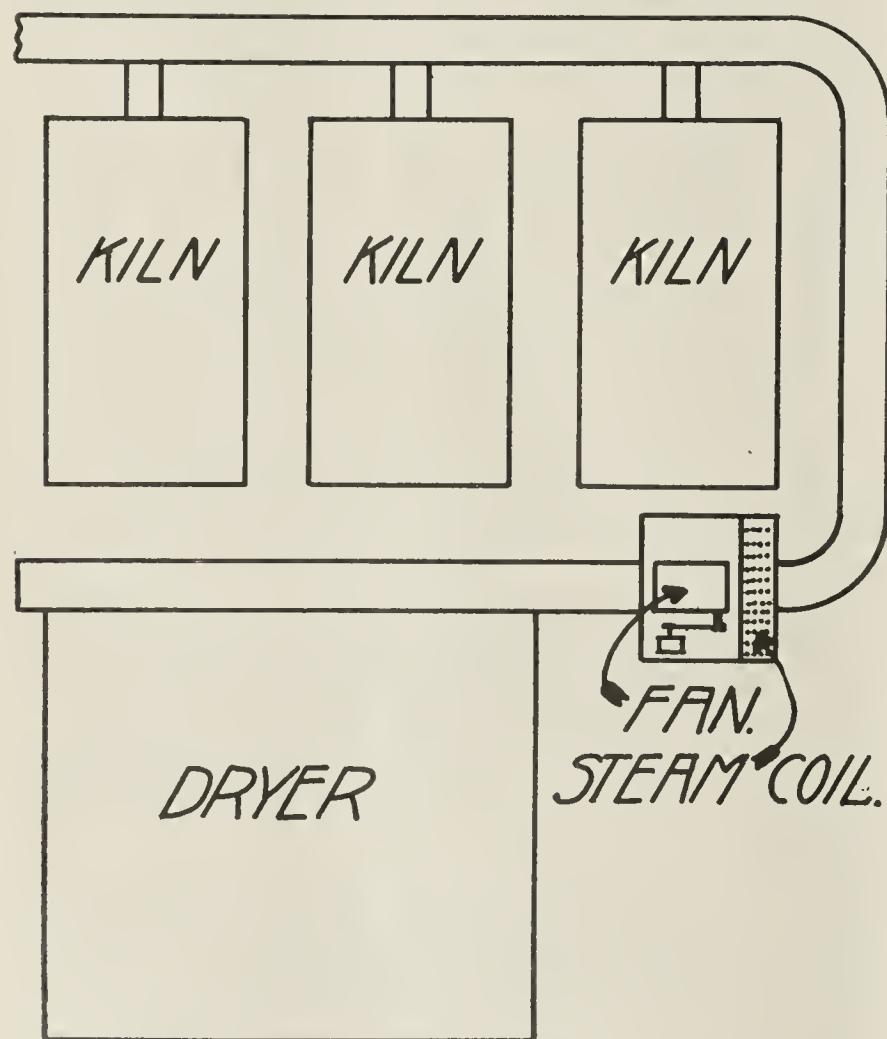
Helpful Hints for Practical Men Whose Problem is Maximum Production With Minimum Cost

Method of Using Heat from Up-Draft Kilns

The question is frequently asked, is there any plan by which the waste heat from up-draft kilns could be utilized for drying, i. e., can a waste heat system be applied to up-draft kilns economically? This matter has been given a good deal of attention for years by the writer, who by looking at the top of a kiln when firing ceases and seeing that great volume of heat go up in the air, wondered how to harness this energy when its work was needed so much in the dryers.

The plan hereby submitted is not to be confused with the system put on the market some years ago whereby the heat is taken from one kiln to another to dry brick in kiln without using a dryer. Such a system requires ducts (mostly two about $3\frac{1}{2} \times 4\frac{1}{2}$ feet) thru center of kilns, with perforated kiln bottoms, which makes burning anything but pleasant, as that hollow space in the center of the kiln will retard moving to the center, the heat that at all times is not too easy a matter to get there. Besides it adds considerable expense to burning as more fuel is consumed to fight the hollow space in the center of the kilns.

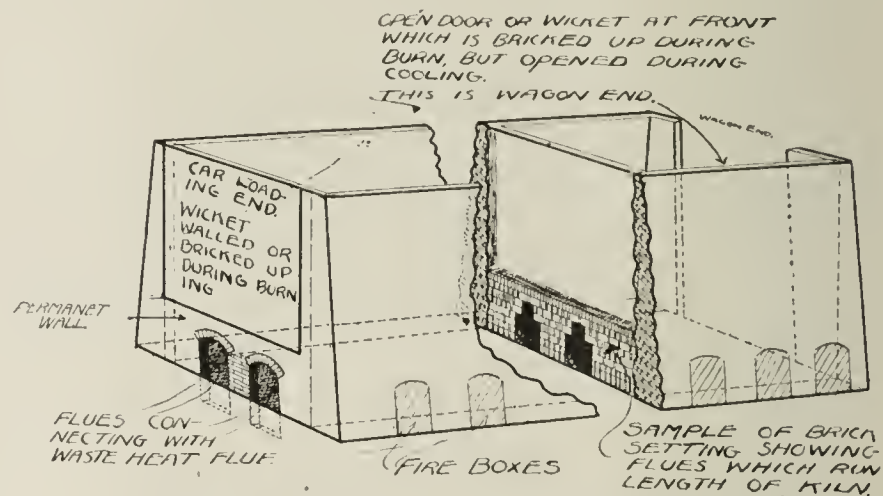
The idea that is hereby described, is not an expensive proposition when the savings are taken into consideration.



Layout for a Flue System to Utilize the Waste Heat from Cooling Up-Draft Kilns.

First, you will note the two openings built in rear end or wicket of kilns which corresponds with the height of the bench in setting the green brick. You will further note it

extends to about eighteen inches below the level of the kiln floor. This is done to get large enough openings to draw the heat from the kilns. These openings should project into



Diagrammatical Sketch Showing How to Arrange Flues for Utilizing the Waste Heat From an Up-Draft Kiln.

the kiln just the width and height of the bench, the setting or over hangers will start on level (top) of the built-in part. The rear end of this new brick port, built up, is connected with a small duct, which carries the heat to the fan and dryer. These openings, while starting the setting, will be closed up in the same manner as the wickets except that they are daubed on both sides. When burning is finished, they can easily be pushed over from the outside, thus making the opening for the heat, to pass thru. Now to draw the heat from all over the kiln, you will note small arches or openings in benches thru the center and full length of the kiln which permits the kiln to cool uniformly and still gives a solid bottom in the kiln which is so essential to successful burns.

There is another great feature to be considered in this plan and that is this. You are in possession of pure heat which is not full of impurities as is the case in many waste heat dryer systems. In fact, at some places these impurities in the heat are a great detriment to the dryer cars.

A steam coil can be added to be used as an auxiliary, utilizing the exhaust steam, or live steam if no heat kilns are on.—R. C. Gangewere, Chattanooga, Tenn.

* * *

The Extent of Preventable Heat Losses

Interesting data has recently been published with regard to the losses which result from the radiation of heat from unprotected surfaces of furnaces, ovens, or similar apparatus wherein considerable heat is generated. It is said that a furnace with 430 square feet of exposed walls and arch, nine inches thick, when operating at an average temperature of 1525 deg. Fahr., loses an amount of heat thru radiation that is estimated to be equivalent to 7,310 gallons of fuel oil, 1,023,000 cubic feet of natural gas, or 6,820,000 cubic feet of producer gas, per 300 days. This is a stupendous loss for even such a small area. An average round down-draft kiln altho having thicker walls, has about five times as much surface exposed as that in the data given above.

About sixty per cent. of the heat loss due to radiation from the surface of a kiln can be saved by properly insulating the kiln with some material that has a low heat conductivity. Care should be taken, however, to see that the material is applied in the correct manner. In the case of the above data, a saving of sixty per cent. would be equivalent to approximately 4,386 gallons of fuel oil, 613,800 cubic feet of natural gas, or 4,092,000 cubic feet of producer gas, annually. Such a saving would easily pay for the cost of insulation in less than a year.



A Wood, Paper, Cast Iron or Steel Pulley?

In a recent issue of a prominent technical paper this statement was made: "Small high-speed pulleys having a metal face should be grooved, to give the belt a better grip on their surface. Remember this, too: Belts are less likely to slip on wood, paper or leather-covered pulleys than on iron-face pulleys."

The writer has always been opposed to the grooving of pulleys in order to increase tractive effort because cutting, grooving, roughening etc. is invariably hard on the belt.

For the same reason I have been opposed to the use of coverings on pulleys of any kind because I believe the hypothesis is wrong for numerous reasons.

It seems to be generally thought that a pulley covering will produce greater efficiency by increasing the frictional quality of the pulley face. It is also thought that grooving and roughening in general will accomplish this same purpose. However, any pulley covering that is in the slightest degree rougher than the polished metal, raises the belt up on the highest point of the rough surface, thereby decreasing the area of contact between the belt surface and pulley surface, and thereby increasing the tendency to slip by a corresponding amount. The tendency at peak load is thus toward a decrease instead of an increase in transmitting capacity.

It must be remembered that no material with which it is possible to coat a pulley will absolutely prevent all slip at all times, or at any time, because belt creep cannot be eliminated. When slipping therefore does occur, a necessarily higher degree of heat is developed between the belt and the rough pulley face than is possible between the belt and a polished pulley face with possibility of increased injury to the belt in consequence, while on the other hand absolute prevention of slip at all times may not be desirable.

With a roughened surface, it is obvious that as the belt creeps (which is simply another form of slip) the wear on the belt is found to be greater than it would be on a polished surface.

Again under sudden starting a heavy load will cause momentary slipping. It is then essential to permit the belt to assume its load gradually. For example, if a street car motorman tries to get his car up to full speed from rest by throwing the controller thru all notches at once, the passengers and the mechanism would get a severe jolt and the motor, if unprotected by a fuse, would burn out. Similarly a slight momentary belt slip performs the same safety function as the fuse, and does so automatically to prevent sudden destructive strain. Granting then that a pulley covering could prevent slip completely under extreme conditions, there would be nothing granted.

Pulley coverings rarely retain the uniformity of face which they have at the start and the growing irregularity continues to decrease belt contact and belt efficiency. As the glue or cement with which the covering is held dries out, becomes brittle and cracks, the intimate pulley contact is distributed and slippage is aggravated. Furthermore, the dependence on pulley coverings alone for increasing belt efficiency does nothing to preserve the belt fabric and keep it pliable. Efforts

to produce perfect belt efficiency thru manipulation of the pulley face do not offer the proper solution and tend to aggravate rather than stop the trouble.

As for which pulley is best—wood, paper, cast iron or steel—the writer has had experience with all kinds of pulleys, but in practice has been unable to detect an all around superiority in any make. They are all good provided they are smooth on the pulling face, as they should be. The proper thing to do is to treat the belt so that it will properly wrap around the pulleys in intimate contact. There will then be no slip, no matter what the make of the pulley. There will be creep, of course, because creep, due to the elasticity of all belts, cannot be avoided. Even the steel belt is elastic and hence the steel belt slips altho the slip is not as great as in the leather belt.

Also it might be well to point out that manufacturers of wood pulleys claim the wood pulleys to give the highest tractive force and the least slip. Manufacturers of paper pulleys come out with facts and figures concerning the non-slip of belts on paper pulleys. Manufacturers of cast iron pulleys can prove with actual figures, curves, data, etc., that there is nothing better than a cast-iron pulley. And of course, the manufacturers of the steel pulleys can prove that the steel pulley is head and shoulders above them all. As stated before, it has been my experience that they are all good and they should all be used, depending upon conditions.

—W. F. Schaphorst.



Making a Saving in a Small Plant Clay Pit

Among the small clay plants, of which there are still quite a number scattered thruout the United States and Canada, there is in use some very primitive methods of obtaining clay for the manufacture of the factory's output. Frequently it is the only method that can be used to advantage under the peculiar conditions existing, and in some cases it is actually the cheapest. However, this is not true in general and there are instances where labor and cost could be saved at a very small investment by making some small changes.

There is one instance on record where the clay for a plant was being obtained thru the employment of four horses and four men. Thus this was the requirements for hauling in wagons a sufficient quantity of raw material to keep the factory in operation. Later a tramway and cars were purchased at a cost of \$300. Two cars were included in the equipment. A horse was employed to haul the cars on the tramway and in this manner, one man, one horse and the two cars did the equivalent amount of work that the four men and four horses did before.



Cost of Charging an Industrial Truck

Due to the great shortage of labor, and wheelers particularly, a large number of plants have been obliged to purchase industrial trucks for unloading kilns and doing other haulage work. These trucks are often operated by storage battery. The storage batteries require to be recharged often and it is interesting to know what this cost amounts to.

On a plant where this type of equipment has been used for a number of years with great success and satisfaction, the cost for recharging the battery daily, for a ten-hour day use, is \$1.40.



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"A timely 'thank you' is as welcome as the flowers in May."

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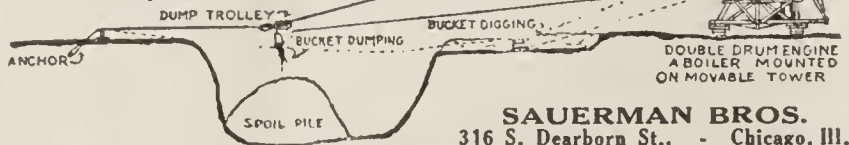
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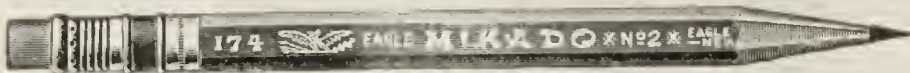
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IN *the* WAKE of *the* NEWS

Being Brief Mention of a Host
of Interesting Happenings in the
Varied Fields of Clayworking

Attended A. F. B. A. Directors' Meeting

J. M. Adams, secretary and general manager of the Iron-clay Brick Co., of Columbus, attended a meeting of the directors of the American Face Brick Association at Pittsburgh recently.

McDonald Pays Chicago a Short Visit

A. P. McDonald, sales manager of the P. Bannon Pipe Co., Louisville, Ky., attended a meeting in Chicago on April 20, of the Clay Products Association, this being a meeting of clay men who are especially interested in sewer pipe.

Makes Long Auto Trip to the West

W. B. Brickell, president of the Ironclay Brick Co., of Columbus, has arrived in San Francisco, Calif., after a 1,000-mile automobile trip along the Pacific Coast. He will return home about May 15 after two months in the western country.

Made a Business Trip to the East

M. M. Morrow, salesmanager of the Hocking Valley Brick Co., of Columbus, Ohio, has returned from a business trip in New York, Philadelphia and other eastern points. He was also at Washington to look after traffic matters connected with the movement of paving brick and hollow tile from the company's three plants.

Sewer Pipe Manufacturer Dies

Thomas J. Evans, president of the Evans Clay Manufacturing Co., of Uhrichsville, Ohio, died at his residence recently at the age of 74 years. He was one of the first clay products manufacturers in what is known as the Tuscarawas district of Ohio. The concern is a large manufacturer of sewer pipe and similar products.

W. E. Dunwody Travels Abroad

W. E. Dunwody, president of the Standard Brick Co., Macon, Ga., and vice-president of the Cherokee Brick Co. of Macon, sailed for Liverpool, England, April 13, and will visit other parts of England and Scotland, after which he will go to France, stopping in Paris and at other points of interest. Mr. Dunwody will visit clay products manufacturers wherever the opportunities present themselves.

Hurt in Automobile Accident

Louis C. Ernst, vice-president of the Louisville (Ky.) Fire Brick Co., was injured when his automobile turned turtle at Baxter and Rosewood Ave., on April 25, when struck by another car at the intersection. Mr. Ernst suffered cuts and bruises about the face and body, and was removed to the hospital and later to his home. Mrs. Ernst and Mrs. Lucinda Renfro, who were in the car with Mr. Ernst, were slightly bruised. Some of the occupants of the car were pinned under it, and the fire department was called to assist in getting them out.

Old Brickmaker Dies at Saugus

John E. Stocker, for many years proprietor of the famous Stocker brickyard at Saugus, Mass., one of the oldest brickyards in New England, died at his home in Saugus on April 16. He had been postmaster at Saugus for 49 years holding the position at the time of his death.

Mr. Stocker was a native of Saugus and was born on April 6, 1844. He was youngest recruit from Saugus in the Civil War and on his return took over the management of the Stocker brickyard which had been established on the banks of the Saugus river by his father many years before. The yard at the time was one of the largest in the section and its output was shipped to all parts of New England. Many of the largest business structures in the neighboring city of Lynn and in other Essex county communities are built of brick turned out by the Stocker yard. The plant was discontinued about ten years ago but many of the original buildings still remain and there is said to still be an apparently unlimited amount of good clay available in the immediate vicinity. In some unexplained manner the yard years ago acquired the nickname of the "Saugus Navy Yard," a name which still clings to it.

New Refractories Plant for Birmingham

Eight and one-half acres of land on Goldwire Street along the L. & N. railroad in the southeastern section of Birmingham, Ala., have been acquired to build a large new plant for the manufacture of silica and fire clay refractories. A new concern, headed by H. S. Teal for several years connected with the Harbison-Walker Refractories Co. in the capacity of superintendent of the silica department, has been incorporated under the name of the Birmingham Refractories Co. with a capitalization of \$100,000 to operate this plant which will have a capacity of 50,000 brick daily.

It is proposed to first construct two kilns and with these, brick will be manufactured with which to build six other kilns. At the same time a galvanized iron structure will be built and machinery placed for the manufacture of the various products to be made among which will be by-product coke oven shapes, for which there is a large demand in the Birmingham territory. The kilns will be of 36 ft. inside diameter.

The clay and silica rock will be brought from Alabama, Georgia, and Kentucky. Also in the deal is included a purchase of 180 acres of silica rock near Anniston.

Experiments with Deposit at Burbank

W. Lee Ray, a mining man and civil engineer of Burbank, Cal., has discovered a deposit of material near Burbank with which he has been conducting experiments in making building block which will greatly reduce the cost of buildings. These block or brick can either be burned or dried in the sun and as a result of his experiments Mr. Ray has proved to his own satisfaction that he can make brick more than twice as strong as adobe at approximately the same cost. One of the advantages of the new brick is that they can be shipped or hauled without putting in straw to prevent breakage.

Finds Advance in Brick Prices Necessary

There is considerable agitation in San Francisco in favor of advancing the price of brick. It is evident that prices must be advanced as soon as new railroad rates are made and become effective, but some of the trade believe that rates should be advanced at once on account of the high cost of manufacturing. They believe that the increase in railroad rates can be anticipated with sufficient accuracy to take care of them when they come in a price increase to take effect im-

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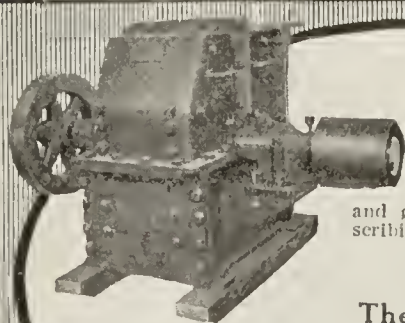
Nonpareil Anti-Friction Metal is particularly helpful on heavy bearings in brick and clay plants, on motors, cars, and on all bearings that are apt to develop friction and heat. More power. Less shrinkage and less oil. No more hot journals.

Nonpareil has been easing the load on bearings since 1885. Trial order solicited.

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K-B Pulverizer

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If you don't get out your pencil and do some interesting figuring on power costs you can save, you'll be the exception.

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92 Lafayette St., New York

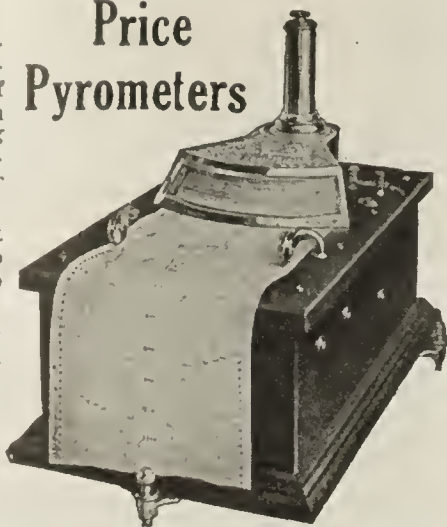
By giving burners an accurate control over temperatures, and helping to prevent useless shoveling of coal, Price Pyrometers in many plants are saving tons of coal. These instruments have repaid their first cost long ago.

There are other important advantages in using Price Pyrometers. We will be pleased to explain these advantages to you in detail. Ask us. Catalog on request.

The Price Electric Co.

12367 Euclid Ave.
CLEVELAND OHIO

Price Pyrometers



mediately. Other brick men believe that it is impossible to anticipate what the new freight rates may be and if a raise in brick is made now either another will have to be made later or a rate unfair to the manufacturers or the public may be put forth. One thing agreed upon is that there should not be two increases if it is possible to avoid them.

Reduces Cost of Cartage

Gregory Bros. have finished the 140-foot trestle at the Ione, Cal., brick plant and rails are being laid. After completion clay can be hauled by cars instead of by teams as at present. By this means the company expects to not only reduce the costs of cartage but also to increase the output of fire brick.

Brick Coming Into Its Own in San Francisco

Contracts for brick and tile houses for San Francisco are showing a constant increase. Time was when the most expensive homes in this city were built of lumber, and up to the time this country entered the war smaller homes were universally built of the same material. Then as the price of lumber began to soar home builders turned to brick until now with the unparalleled prices asked for lumber new frame houses are becoming something of a rarity. Unless lumber prices soon come to a material lower level San Francisco will become a city of brick and cement. This demand for brick which shows an increase every day makes the brick men all the more impatient with the freight tie-up. Practically all contracts for large concrete buildings include a facing of brick and the future demand in this direction promises to show constant increase.

A great many people have complained that San Francisco is slow in getting busy with new buildings which all acknowledge are in great demand. This slowness is generally attributed to the high costs of building material and the high wages of the workmen. As a matter of fact the new buildings are going up about as rapidly as material and labor can be provided irrespective of costs. The owners of property recognize that the dollar is not worth what it used to be, and believe there is little prospect of it ever attaining again its before-the-war purchasing value, so they are willing to build as rapidly as men and material are available irrespective of cost.

Slow Movement of Freight Ties Up Building

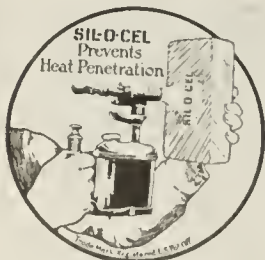
The outstanding feature in the clay products industry in San Francisco at the present time is the strike of the switchmen in the various railroads. This has tied up nearly all freight movement and has brought to an absolute end the movement of brick and clay. The railroads state in the public prints that the strike is over, but the brickmen find that their product is not moving any better than it did in the first days of the strike. Some of the brickyards are located at tide water and are able to move their finished product to this market, but even these yards are handicapped in getting in materials needed which can be moved only over the rails. For instance one large brick yard brings in considerable of the clay, with which it makes a special brick, from an interior point, and at present this clay is unavailable. The yard is located at a clay deposit which supplies material for some of the brick it makes, but the plant cannot work to capacity so long as it cannot get the special clay it needs. It is stated that if the strike is not settled to the extent that freight may move freely in the near future, some of the yards may be compelled to close down.

Building in San Francisco is being held up materially by the non-arrival of brick and tile products. Several cars of tile have been lying in the yards of the railroad at Los Angeles

BANDS, DOORS, GRATES and FITTINGS

FOR BRICK KILNS

TRI-STATE ENGINEERING COMPANY
Zanesville, Ohio



Protect Your Kilns

from heat losses and you will increase their efficiency and output.

SIL-O-CEL

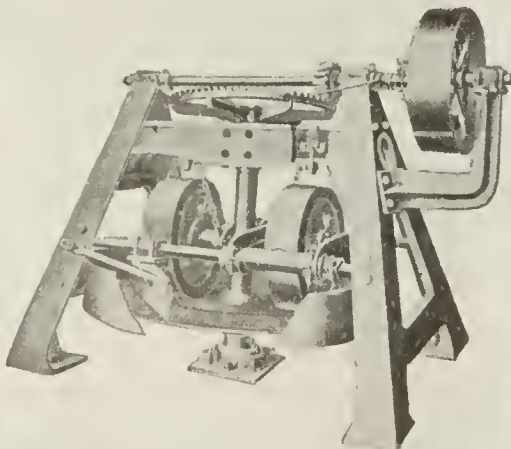
Produced in the form of brick, block, powder and cements.

Insulation will keep the heat in the kilns, making it possible to obtain greater temperature uniformity and reduce spoilage due to uneven burning. Ask for Bulletin R-71.

CELITE PRODUCTS COMPANY

New York, 11 Broadway. Chicago, Monadnock Bldg. Los Angeles, Van Nuys Bldg.
Pittsburgh, Oliver Bldg. Philadelphia, Liberty Bldg. Cleveland, Guardian Bldg.
St. Louis, Syndicate Trust Bldg. Detroit, Book Bldg. San Francisco, Monadnock Bldg.

THE EAGLE DRY PAN



Write for Prices

EAGLE IRON WORKS DES MOINES IOWA

since the strike was inaugurated with little present prospect of their immediate movement towards destination. The contractor who needs them is now investigating the proposition of hauling the tile by auto truck to San Pedro and shipping them by steamer to San Francisco. This would add materially to their cost, but it might be economical if freight movement is to be delayed much longer.

Brick Company Incorporates in Colorado

Articles of incorporation of the Schlesinger Brick & Tile Co. were filed on April 14. The concern is licensed to acquire, construct, operate and maintain brick, tile, pottery and clay plants, yards and factories in the state of Colorado. The incorporators are: Samuel Schlesinger, Robert A. Scott and S. M. Kistler, who will also act as directors for the first year. The capital stock is given as \$25,000. The principal offices of the concern will be in Colorado Springs, Colo.



The New Haven (Conn.) department of public works has asked for bids for furnishing the city with 90,000 sewer brick.

Easy to Dispose of Entire Output

Many of the brick yards in the Berlin, Conn. district have resumed operations for the season and others will be opened very soon. The work of pumping out the clay pits was started early in April, as soon as weather conditions would permit, as manufacturers were anxious to get started making brick realizing that they would have no difficulty in disposing of all that could be turned out.

Milledgeville Plant to Run by June 1

C. C. Porter, president, and E. T. Asbury, superintendent, of the Porter Brick Co., Milledgeville, Ga., expects to have the plant running by June 1. They have a capital of \$100,000 paid in full. All machinery is on the ground and is being installed, for the manufacture of brick.

Makes Improvements at Georgia Clay Mines


Richard C. Sant, of John Sant Sons Co., East Liverpool, Ohio, has been in Dry Branch, Ga., at the clay mines, since March 1, making many improvements and additions while there, among which is an excavator, and the company now is equipped to ship almost an unlimited supply to potteries. At the time this was recorded, Mr. Sant was about to start back for East Liverpool in an automobile.

New Macon Plant Soon in Operation

The Macon (Ga.) Brick Corporation expects to be in operation in less than sixty days, producing brick, hollow building tile and sewer pipe. They have fifteen, thirty-six foot down-draft kilns, waste heat method of drying, and a summer yard the capacity of which will be a million brick. The plant is electrically driven thruout, under the personal supervision of J. B. Wall, who has been in the brick business for the past fifteen years at Macon, in all its branches, from selling on the road to the manufacturing of brick.

Form Partnership for Exclusive Sale of Bibb Clay Products

Messrs. Marion Jordan, Jack Masee and Jordan, Jr., announce the formation of a partnership to be known as the Masee Brick & Tile Co., not incorporated, at Macon, Ga. The new company will have the exclusive sale of all the product of the Bibb Brick Co., and will add several other lines in clay products which the Bibb company does not produce.



"The Chain of Double Life"

UNION STEEL CHAINS


CAST TOOTH SPROCKETS
CUT TOOTH SPROCKETS

ROLLER CHAINS
BUSHING CHAINS
CONVEYOR CHAINS
ELEVATOR CHAINS
ATTACHMENT LINKS
BUCKETS
ETC. ETC.

Over 40 different sizes and types of steel chains to fit standard sprockets 1-in. pitch and larger. Special Chains up to 1,000,000 lbs. ultimate strength.

*They've Chained Many
a Plant to Prosperity*

THE UNION CHAIN & MFG. CO.
SEVILLE, OHIO





STANDARDIZED
MATERIAL-HANDLING
MACHINES

Barber-Greene-Co

Aurora - Illinois.

Makers of
the original B-G
Standardized Belt
Conveyors. B-G Self-
Feeding Bucket Loader.

A Tank You Can Trust



You don't have to keep your eye on a Caldwell Cypress Tank. You need have no fear of breakage or leaks. It's like a good workman—on the job and giving honest service every day in the year.

Because the Caldwell Tank is built of the highest grade materials according to engineering principles by experienced tank builders who realize that a good tank is more than a carpenter's job. As a guarantee against leakage, every joint is machine-planed with full bearing and the hoops are spaced so that no hoop is over-stressed.

Send for Catalogue

W. E. CALDWELL CO., Incorporated
2380 Brook St. Louisville, Ky.



TANKS
AND
TOWERS

LESCHEN Wire Rope



Our greatest asset is the reputation of our product, and it is our policy and our purpose to maintain at all times the high and dependable quality that has built up our business.

Established 1857

A. LESCHEN & SONS ROPE COMPANY
Makers of HERCULES (Red Strand) WIRE ROPE

Chicago New York ST. LOUIS Denver San Francisco

We Can Save You Time, Money and Trouble on Fire Brick

BECAUSE OF

Quality, Price and Service

Freight Rates on all R.R.'s in UNITED STATES and CANADA

A Trial Shipment Will Convince You. Write Us

ALSEY BRICK & TILE COMPANY
ALSEY, ILL.

BURN ANY COAL

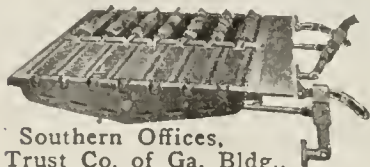
Never mind the quality; put it up to

CANTON Rocking and Dumping Grates

to take care of it. Thereby they will also take care of your pocketbook.

Smooth, even surface that will not warp.
No complicated parts. Easily installed in any furnace by any mechanic. Send for descriptive literature.

For Boiler and Kiln Grates



Southern Offices,
829 Trust Co. of Ga. Bldg.,
Atlanta, Ga.

**CANTON GRATE
COMPANY**

1706 Woodland Avenue,
Canton, Ohio

"No Need To Run It Any Longer"—

"Our classified ad, which expired in your recent issue, brought the necessary results and therefore will not need to run it any longer. We thank you very kindly for your interest and will be glad to bear you in mind in the future."

Brick and Clay Record

610 Federal St., Chicago

The Bibb Brick Co., Macon, having just completed a large addition to its plant, has now a capacity of 250,000 brick daily and 150 tons hollow building tile, or if their three machines are used on brick, 400,000 daily.

M. H. Massee's experience as head of the Massee & Felton Lumber Co., Macon, for twenty years and Messrs. Jordan and Jack Massee's experience with the tremendous output of the Bibb Brick Co., as a nucleus to begin with, means that the Massee Brick & Tile Co. will be a big factor in the development of Macon's growing importance as a distributor of clay products.

For the present, offices of the new company will be in the offices of the Bibb Brick Co., corner Tenth and Oak Sts.

Schlechte Brick Yard Sold for \$4,300

It is reported that George Wolff of Nashville, Ill., has purchased the Schlechte brick yard and homestead for \$4,300 and will rebuild the brick kilns preparatory to manufacturing brick.

Auction Property of Illinois Clay Plants

Due to foreclosure proceedings brought up by Richard W. Hilgard, trustee, the property of the Belleville (Ill.) Brick & Tile Co. was sold at auction by Master in Chancery John Hamlin recently. It was sold to satisfy a mortgage of \$158,550.03 and the total amount bid when all property was placed on sale in a lump was \$70,250. It was bid in by August Barthel, trustee. No announcement is made whom Mr. Barthel represents.

The property was first put up separately and then put up in bulk and sold; the prices offered on the separate tracts were as follows: Tract 6, which is part of the Mascoutah Brick Co. plant, \$5,000, bid in by William and John J. Kloess, and tract 5, another part of the Mascoutah Brick Co., \$2,000. When the two tracts were on the same bid, the Kloess brothers offered \$10,000.

Tract 4, Kloess Brick Co., was bid in by Kloess brothers for \$15,000. The three tracts were then bulked and bid in by the same persons for \$25,500. Tract 3, Belleville Brick Co. bid in by Edward Abend for \$6,350, subject to a mortgage of \$24,000. Tract 2, with 7 acres of coal land under the Anthony Ittner Brick Co., and tract 1, the Ittner Brick Co. plant, failed to bring separate bids, but when lumped were bid in at \$38,350 by James B. Hulett.

Will Improve Brick Factory

Redman Brothers are planning a number of improvements in their brick and tile factory at Cynthiana, Ind., this spring. A new engine is being installed to run the new brick and tile mixing machine they have purchased, which will largely increase the capacity of the plant.

Shortage of Fuel to Run Plant

The Southern Brick & Tile Co., Louisville, Ky., reports a good demand, with plant running full, but considerable trouble experienced in securing fuel to run the plant. The company is contemplating establishment of a downtown office, but hasn't made any definite arrangements as yet.

Prices Now Higher in Louisville

Prices are higher and are now up about where they should have been some months ago. Louisville is quoting common brick at \$22.50 delivered; or \$20 f. o. b. cars. Face brick, \$37 delivered, \$33 f. o. b. cars. Hollow tile is quoted 40 per cent. off list on board cars, and thirty off list delivered.

Revising Louisville Building Code

The City Building Inspector of Louisville is revising sections of the building code, and a number of changes are being made that will be favorable to brick and hollow tile, and protect the use of such materials, where specified in the code, especially in reference to the use of flue lining in chimney construction.

Booked Up for Four Months Ahead

James T. Howington, of the Coral Ridge Clay Products Co., Louisville, Ky., stated that he was booked up for four months, and was turning down immediate shipment business right and left, as it cannot be handled. Car supply today is very satisfactory as a whole, and the company is operating at capacity both in the brick and hollow tile departments, and making heavy shipments.

New Plant to Operate by June 15th

It is expected to have the plant of the Quinn-Win Brick & Tile Co., at Sturgis, Ky., in operation by June 15. The most modern machinery is being installed at the plant, which will have a capacity of 40,000 brick daily, and will give employment to forty people. Building brick, hollow block and building and roofing tile are to be manufactured in quantities sufficient to supply not only the local demands, but for shipping extensively. The new company is capitalized at \$50,000 and J. W. Quinn is manager.

Plumbers See How Sewer Pipe is Made

The P. Bannon Pipe Co., Louisville, Ky., had about four hundred plumbers and members of their families on a trip thru the plant on Wednesday morning, April 21, at the close of the convention of the Kentucky Association of Master Plumbers in Louisville. Many of the plumbers are large consumers of sewer pipe, especially in four inch sizes, but very few had ever seen sewer pipe made. The company had ample notice of the trip, and had everything prepared, so that it could show the visitors sewer pipe making from the raw clay on board cars to the finished product going into cars for shipment, including making, burning, etc.

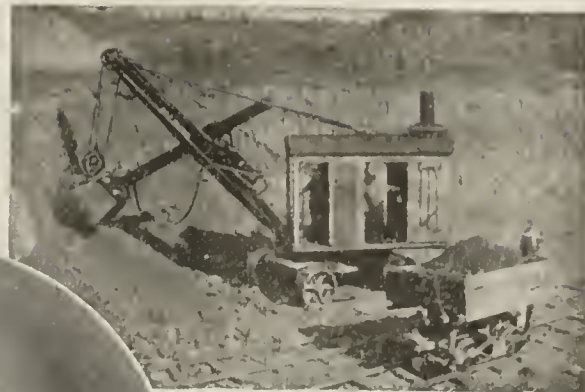
Louisville Stocks Grow Thru Embargo

Business with the Louisville brick manufacturers, as well as the hollow tile trade, is merely a question of producing material fast enough to supply demand, there being a very heavy inquiry, with some houses sold up for two to four months. In fact, it is believed that business is in sight that will keep every one busy for the balance of the year, and the general outlook is good.

It is certainly an ill wind that blows no one any good. Louisville jobbers for many months have been unable to secure much stock, but due to the embargo situation resulting from the freight strikes, many manufacturers in Illinois, Indiana and Ohio were unable to ship face brick lines into northern cities, and have routed the shipments south and to other cities which could readily use them.

Now, however, the strikes are fairly well broken, and local traffic experts report that by skillful routing it is possible to reach Chicago, Cleveland, New York, Philadelphia, Syracuse, Buffalo, and most other cities, even getting into the New England states by routing over the Nickel Plate, New York Central and Boston & Maine. This will probably mean that shipments to local jobbers will be even lighter than they were before the strikes until when things go back to something like normal.

ERIE Shovel
owned by
Jackson-
Bangor Slate
Co., Pen Ar-
gyl, Pa.



"Very Economical"

"During the past year we have moved approximately 50,000 cu. yds. of slate shale with our ERIE Shovel. It is a wonderful machine, ideal for our work, as it is easily moved. We find it very economical and inexpensive. We are very much pleased with our investment." N.M. Male, Sec'y, JACKSON-BANGOR SLATE CO. Pen Argyl, Pa.



Serves as
Steam-Shovel
or Crane
(Clamshell)

The ERIE Shovel is easy to operate. Very speedy. Built with extra strength all the way through. Gives steady service in hard shale.

Let us send you full details about the ERIE Shovel, and what it will do. Write for Bulletin B.

BALL ENGINE CO., Erie, Pa.

Builders of ERIE Steam Shovels and Locomotive Cranes

ERIE Revolving Shovels

BALL
Engine Co.
Erie, Pa.



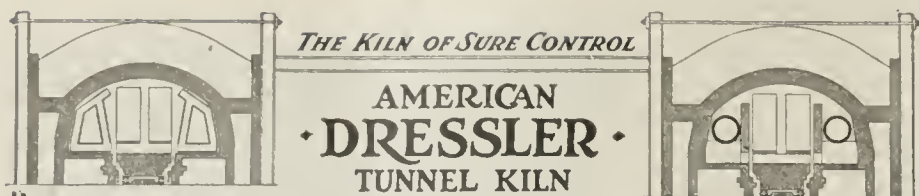
Light steel rails

We saved the day for the Clay and Coal Operators in War Times by furnishing BUCKEYE MINE RAILS, whenever and wherever needed, and while many other Steel Mills were running exclusively on other material, you could not have operated without us at that time.

Now, in Times of Peace, we ask that you do not forget us, as we can, and will render the same unexcelled service, and furnish the same high quality of material. "Buckeye means best", and BUCKEYE LIGHT STEEL RAILS are better still. All sections from 12 lb. to 40 lb. inclusive always in stock for quick shipment.

Let us have your inquiries, and we will take the chance of developing them into orders on our books.

THE BUCKEYE ROLLING MILL COMPANY
STEUBENVILLE, OHIO



PENNY WISE AND POUND FOOLISH

is the man who continues
to pay more to

BURN BAD PRODUCT

than to

BURN GOOD PRODUCT

American Dressler Tunnel Kilns, Inc.

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"We have been using at our two factories for the past year, Barium Carbonate made by the Rollin Chemical Company. This material is used to prevent scum and has proved entirely satisfactory."

THE UNITED STATES ROOFING TILE CO.
5-15-18

IMPROVE YOUR WARE

It can be done by the use of Rollin's Barium Carbonate because it eliminates scum.

Just add it to your clay at the pug mill or dry pan and it will make the scum-producing salts insoluble and harmless to your ware.

Write us now.

Rollin Chemical Corp.

Equitable Building
120 Broadway, New York City

BRICK MUST HOLD UP ITS REPUTATION

Blanchard Plant Plans to Double Capacity

The Willowbrook Brick & Tile Co., with plant at Blanchard, La., will start manufacturing brick early in May, having installed a complete line of brickmaking machinery for a capacity of 70,000 brick per day. Arrangements are being made to double this capacity. A steam shovel has also been installed at the plant.

How Things Stack Up in New Orleans

Real progress in building construction is being made in New Orleans, according to F. W. Salmen, president of the Salmen Brick & Lumber Co., of that city. At the present time there is in the course of construction \$35,665,000 worth of building. Furthermore, there is being contemplated \$35,640,000 additional construction work. This makes a total of \$71,305,000 in cost of buildings. A good portion of this work will, of course, be of brick, but no brick shortage is anticipated in New Orleans, as there are at the present time four plants shipping into that city. The Salem Brick & Lumber Co. is arranging to double their present capacity and this will more than take care of any increased demand for brick.

The present output of the Salem Brick & Lumber Co. is a little over 200,000 brick per day. New Orleans has always been a reinforced concrete city, but it seems to be getting away from that building material and going towards brick which makes prospects look very bright for the brick industry. The price of common brick at New Orleans at the present time is less than the average price thruout the United States.

The greatest contention that the brickmakers have at the present time is the tremendous car shortage that is prevalent in the South. It is almost impossible to get any cars at all. Weather conditions are ideal practically the whole year round in New Orleans, and this city at the present time is the second port in the United States.

The housing shortage in New Orleans at the present time is also a serious contention as there are more than five thousand homes short. Labor conditions are very good at this time.

New Incorporation to Make Brick

The Amherst (Mass.) Brick Co. has received a Massachusetts state charter to manufacture and deal in brick and building supplies. The authorized capital is \$60,000 and the incorporators are Charles M. Field and Sara Field of Longmeadow, and George C. Dow of Amherst.

New Farber Mine Backed by Mexico Men

The North Missouri Fire Brick & Clay Co., with a capital stock of \$40,000 has been organized in Mexico, Mo., and will be located at Farber, Mo. The men interested in the new project, whose purpose will be to sell clay from a mine opened near Farber, are: Benjamin Hill and D. O. Groce, of Farber, and R. R. Buckner, Gallaher and Streif, R. N. Nichols, R. R. Wagner, Lee Bros. and Hoxsey & Shrout, of Mexico, Mo. The new company intends to build a plant at Farber.

Road Work Getting Underway in Missouri

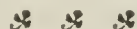
Since January 1 the Missouri State Highway Department has let contracts for the construction of more than 211 miles of improved highways with state and federal aid. The department has 800 more miles that have been approved by the government and are ready for the letting of the contracts. This work includes all forms of road material.

In spite of the high price of materials, the scarcity and the

disposition of contractors to hesitate about taking road contracts, the departments succeeded in letting contracts for thirteen out of sixteen projects advertised since the first of the year. When bids were not received on advertised projects, the department either made private contracts or authorized the county courts to take over the construction of the projects at the estimated cost. The total estimated cost of the thirteen projects is \$2,038,041.

Making Extensive Improvements at Plant

The Boston Brick Co. which operates a large plant at Rochester, N. H., is making extensive improvements at the yard preparatory for the season's operations. Two big boilers are being installed and a large up-to-date dry shed is being erected, the shed having brick walls and a capacity of 60,000 brick. Twenty-seven thousand feet of piping is being installed in the building which will be 167 by 67 feet.



The Richard C. May Tile Co., of Youngstown, Ohio, has been chartered with a capital of \$10,000 by J. L. Richardson, C. Richardson, C. W. Osborne, J. Osborne and V. J. Lamb.

Fire Causes \$50,000 Loss

A disastrous fire at the plant of the Universal Clay Products Co., of Sandusky, Ohio, recently caused a loss of approximately \$50,000 on the plant and equipment. The buildings were almost totally destroyed. The cause of the fire is unknown.

Ohio Paving Brick Men Meet in Columbus

The annual meeting of the Ohio Paving Brick Manufacturers' Association was held at the Deshler Hotel, Columbus, April 30. Questions on the freight situation, car supply and conditions of the trade were discussed. The annual election of officers was held. There are 14 members in the association, all of whom were represented at the meeting.

Ohio City Establishes Planning Commission

Pursuant to the new Ohio law enacted at the last session of the Ohio General Assembly, providing for planning commissions in municipalities, the city of Middletown, Ohio, has named a planning commission, which will have authority to establish zones and control building in various parts of the city.

To Start a Home Building Campaign

At Bellefontaine, Ohio, the Chamber of Commerce, backed by business men, has started a home building campaign in which it is planned to build at least fifty homes during the summer. Plans have been prepared by a Columbus architect for ten houses, to cost about \$5,500 each. The Bellefontaine Development Co. is the name of the corporation which will have actual charge of the building.

Not Troubled With Coal Supply

H. H. Klocke, salesmanager of the Mt. Cherry Coal Co., of Columbus, which operates a face brick plant at Fredericktown, on the C. A. & C. R. R., reports a good demand for brick, altho shipping is held up because of the strike. The company is building three additional kilns at the plant in order to increase its output.

This firm operates a coal mine and as a result has not had to close down for want of fuel.

Perforated Steel Screens

Of Every Description

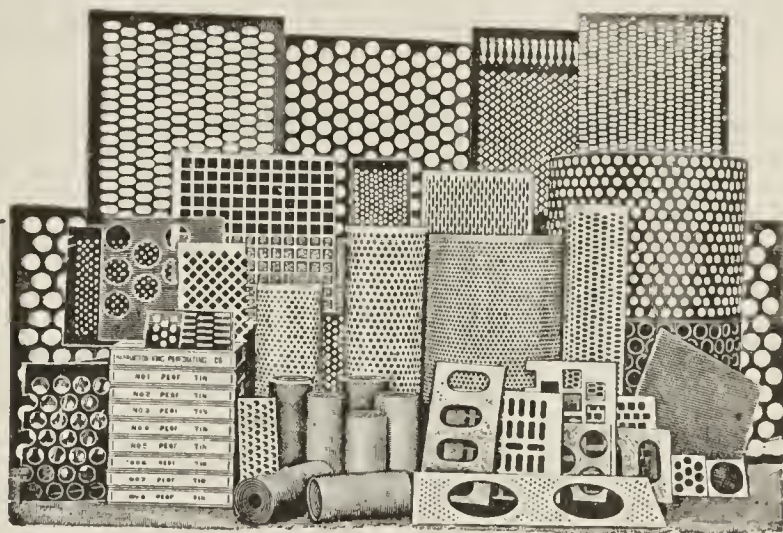
For Screening Clay, Shale, Sand,
Gravel, Stone and Cement

No Other Screens Will Give You Equal Capacity,
Durability and Satisfaction

The Harrington & King Perforating Co.

635 N. Union Ave., Chicago, Ill.

NEW YORK OFFICE: 114 Liberty St.



You won't have to worry about competition
if you treat your clay with

R. H. Precipitated Carbonate of Barytes

You can safely guarantee that your brick
will be

Scum-Proof

You can get a higher price and influence
architects to specify your product because
Efflorescence is prevented absolutely.

But insist on the R. H. BRAND—it's dependable.

*We have a complete line
of high grade chemicals
for the clay industry*

**The Roessler & Hasslacher
Chemical Company**

709-17 Sixth Ave.

New York

Chicago, Ill.

Cleveland, O.

St. Louis, Mo.

Kansas City, Mo.

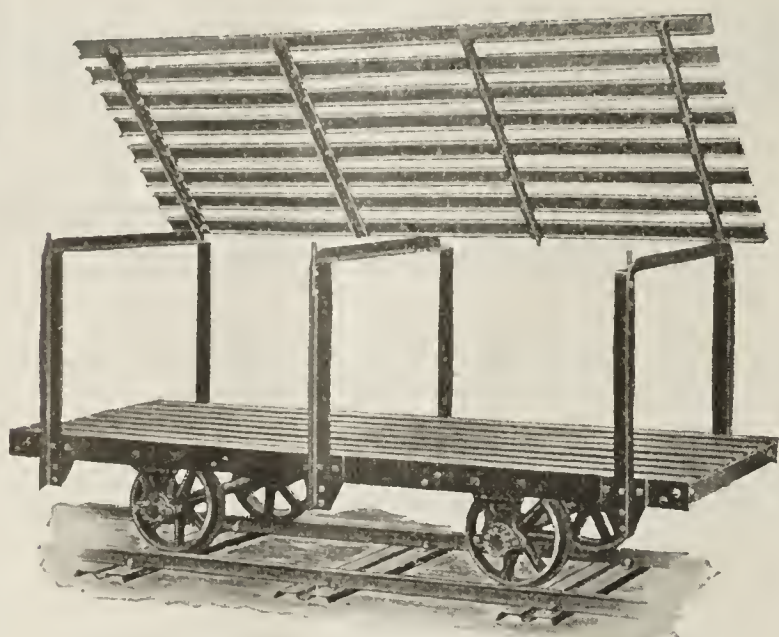
San Francisco, Cal.

Philadelphia, Pa.

Boston, Mass.

New Orleans, La.

Cincinnati, O.



Lakewood Double Deck Car No. 167

The Robinson—LAKEWOOD LINE—
Dryer Cars; correctly designed, correct-
ly built, correctly sold.

Frank H. Robinson

Factory and General Office - - Pittsburgh, Pa.

Jenkins Standard Brass Gate Valves

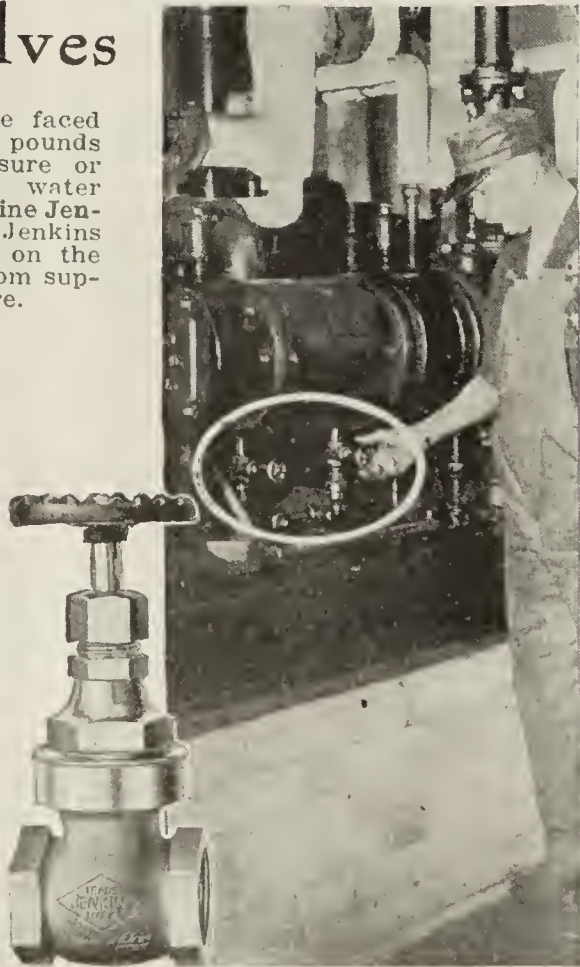
Solid wedge, double faced type. Suitable for 125 pounds working steam pressure or 175 pounds working water pressure. Know genuine Jenkins Valves by the Jenkins "Diamond Mark" on the body—obtain them from supply houses everywhere.



FIG. 370 Jenkins Standard Brass Gate Valve Installation photograph taken in Equitable Bldg., New York City.

JENKINS BROS.

New York
Chicago
Boston
St. Louis
Washington
Pittsburgh
San Francisco
Philadelphia
Montreal
London
Havana



Jenkins Valves

2139-J

Brick Production Held Back by Rains

Common brick is still in extra good demand in Central Ohio territory. Because of the rainy weather the manufacture of common brick has been retarded and supplies in Columbus and in fact in all of Ohio are very much reduced. Quite a few jobs are held up because of inability to get shipments and the situation is not encouraging. Common brick, delivered on the job run from \$23.50 to \$28.00, depending on length of haul and also on the kind of brick.

Large Brick Contract Goes to Shorey

The D. C. Shorey Brick Co., Cincinnati, Ohio, recently landed a contract for material to be furnished for the Otterbein Home to be erected near Nino Village, which will total approximately \$8,000,000.

Thirty-five buildings are to be put up within the next eight years, all of which will be of brick construction. In addition, there will be a power plant, and over 1,000 homes for workmen in the vicinity.

The contract calls for immediate delivery of 2,500,000 face brick, 1,000,000 common brick and a quantity of tile.

Made Million Face Brick in March

John T. Baker, salesmanager of the Hocking Valley Products Co.'s brick department of Columbus, has just returned from a business trip to Detroit, Toledo and Cleveland where he went over the brick situation. He found practically all work in Detroit closed down because of the strikes and train service curtailment. Mr. Baker reports that work at the plant of the company at Greendale is progressing satisfactorily altho shipping is held up. The concern manufactured about 1,000,000 face brick during the month of March. Several small break-downs have reduced the output during April.

Hocking Valley Face Brick Men Suffer

The face brick trade in the Hocking Valley manufacturing section of Ohio is at a standstill because of the switchmen's strike and the attending embargoes. Comparatively little shipping is reported from any of the plants, altho all have orders for millions of brick. More recently there has been signs of a return to work of the strikers and all of the railroads in Ohio are doing better as far as freight movement is concerned, but the situation is still bad. Manufacturing is still being carried on where coal is available, which is at most of the face brick plants in the valley. Quite a few plants, which are not located close to mines, have been closed down because of lack of fuel. On the whole the situation is not good and manufacturers are in a quandary as to how to proceed.

Closes Big Contracts for Face Brick

E. C. Howard, manager of the Columbus Fire Brick Co., of Columbus, Ohio, has closed a contract to furnish the face brick for the new million dollar hotel to be erected at Winston-Salem, N. C. The contract was secured thru the agency of the Orinoco Supply Co. The contract calls for light mingled shades of "How-Brik," which will be furnished from the plant of the Webster Brick Co., at South Webster, Ohio. The output of this plant is sold exclusively thru the Columbus Fire Brick Co. Mr. Howard recently secured contracts for two other hotels for "How-Brik" which is the trade-mark of the South Webster product, an apartment hotel at Atlanta, Ga., and an apartment hotel at New London, Conn. The latter was sold thru the agency of Dolben & Co., of Boston. Approximately 600,000 brick will be used on the three jobs.

New \$25,000 Brick Firm in Cleveland

A new brick firm for the Cleveland, Ohio, district, is announced by H. F. Kemper, well known to the brick and building supply business in the Northern Ohio territory. The Kemper Material Co. has been organized with J. F. Kemper, president; H. F. Kemper, vice-president and treasurer, and E. G. Wilkinson, treasurer. The company has been incorporated for \$25,000, and will deal particularly in face brick, proposing to cover the Northern Ohio territory intensively.

J. F. Kemper has been known locally in the hay and grain business. H. F. Kemper has for years been identified with the building supply business in this section, and is known as an authority on face brick. Recently he has been salesman, manager of the Independent Brick & Tile Co. Mr. Wilkinson has been in the brick business for eight years, and has a wide following in this section. Offices and display rooms have been established at 603 Sincere Building, Prospect avenue and East 4th street, Cleveland.

Building in Central Ohio Eases Up

Bad weather coupled with the railroad strike and the attending difficulty in securing building supplies of all kinds has slowed up building operations in Columbus and Central Ohio. Some of the larger projects are held up although contractors and architects are still rather busy figuring on new work. Home building is slowing down, for the reasons given above and also because of the tightness of the money market. Building and loan associations, which are especially strong in Central Ohio and which usually finance home building projects have little money and are not able to loan in sufficient amounts to encourage construction work. Building permits show a fair number of dwellings started during the past two weeks, however. Outside of the city limits, where permits are not secured there is a fair amount of work in progress. The American Home Building Association, chartered some time ago with a capital of \$500,000 announces that it will construct 250 dwellings during the present season. Francis M. Doyle, formerly an officer in the construction department of the U. S. Army, is at the head of this concern.

Spends \$25,000 on Plant Improvements

Approximately \$25,000 is being spent on improvements by the Mitchell Brick Co., located on the Lower River road, Delhi, a village on the Ohio River near Cincinnati. New boilers are being installed and a new steam shovel has been secured which will greatly facilitate the working of the plant and make production more rapid.

Every year the Mitchell company is obliged to shut down thru the winter months because of high water. The usual time for closing the plant is about the middle of December, but owing to early rains last fall officials were obliged to call a halt in the early part of November. Inclement weather this spring has prolonged the inactivity of the plant so that when it began operations on April 22 it was several months behind in its orders.

Officials of the company are inclined to be optimistic however and every effort will be made to make 1920 a banner year despite adverse labor conditions and the scarcity of materials.

The plant has a capacity of 31,000 brick per day or about 6,000,000 a year, and will continue to turn out its product at this rate during 1920. It is said that with the close of active operations next fall extensive additions will be erected as the demand for brick in this district is becoming more insistent every year.

To Manufacture Brick at Gaffney

O. V. I. Spurgeon is making preparations to manufacture

WATERBURY

WATERBURY ARMORED ROPE

PLAIN STEEL

WATERBURY ARMORED WIRE ROPE

IN STEAM SHOVEL WORK

THIS is another service in which wire ropes are subjected to unusual strain and wear. The dust and grit raised in digging operations of this character is exceptionally hard on ropes. The Clay Product Company of Brazil, Indiana, is using Waterbury Armored Rope on their shovels with the result described by them, as follows:

"Referring to you, favor of November 22d, we advise that our 1 x 1 1/2 inch (construction) is giving us about 180 days' service against the old day service from an ordinary wire rope. We find a very satisfactory cable and are using the same on all our shovels. It is a great advantage as the larger rope is giving."

Waterbury Armored Rope is made of the finest quality steel wire, and is covered with a special non-slip coating. It is the only rope that can be used in the most severe conditions of service.

"Twice as many hours out of Waterbury Armored Rope"

That's the universal verdict of the Waterbury users whose rope needs cover every sort of hard service, from steam shovel and dredge work to heavy logging. The more brutal the grind, the more decided economy in Waterbury Armored Rope (Gore Patent). The flat armor wire takes the wear for the life of one ordinary rope, and as it wears, packs down into the strands, making a smooth surface which gives them more than another rope's life.* Flexibility is not sacrificed, for the convex edges of the flat armor wire (the patented feature) allow as easy bending as a bare wire rope of the same diameter—and prevent the armor wire from riding up on itself or becoming loose in service.

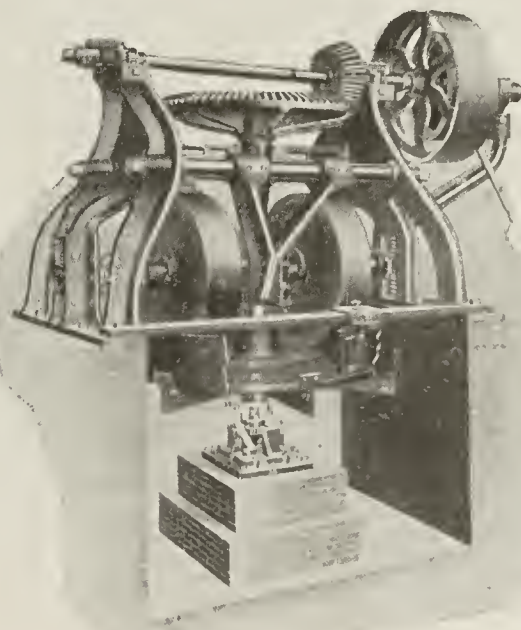
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CHICAGO SAN FRANCISCO DALLAS, TEXAS NEW ORLEANS

*The Waterbury Rope Handbook illustrates this advantage—and tells you all about rope of every kind. A free copy is yours for asking.

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STEAM PRESSES FOR MAKING

Sewer Pipe, Drain Tile, Hollow Blocks, etc.

All of the highest class designing and construction are manufactured by

THE STEVENSON COMPANY

General Offices and Works: WELLSVILLE, O.

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The MINTER SYSTEM of Continuous Burning Down Draft Kilns

Speeding up Production of Face Brick these days is necessary in order to supply the demand.

Coal is very scarce—Hard to get. All indications point to a general shortage for some time. The coal you can get must be utilized to the best advantage.

Would it pay you if you could burn more brick—a few million per year—with the coal you can get?

It can be accomplished by the continuous system of burning on your down draft kilns. Foremost is the MINTER SYSTEM—Because WE HAVE COMPLETE CONTROL, guaranteeing No. 1 ware production.

Let us show you how.

The Flint River Brick Company
ALBANY, GEORGIA

brick at the plant on Broad River, Gaffney, S. Car. and expects to begin work very soon. Local demands will probably take all of the product for quite a while as a large number of buildings will be erected, requiring brick.

Construction Company Buys Brick Plants

The Shepherd Construction Co., of Wilkes-Barre, Pa., has purchased the three brick plants belonging to John Keim of Danville, Pa., and intends to make enlargements and improvements during the coming year. Mr. Keim has been retained as manager of the brick manufacturing business and work is now under way in modernizing the factories.

Complete New Castle Brick Plant

The new eight kiln plant of the New Castle Mining & Clay Products Co. has just been completed and is now preparing for operation for the manufacture of brick. The factory is electrically equipped, each machine being driven by an independent motor with direct belt drive. Each kiln has ten fire boxes. The dryer, which is of the radiated heat type, has a capacity for eighty thousand brick. The officers of the company are, president, M. A. McClure; vice-president, G. T. Weingartner; secretary-treasurer, C. H. Andrews. The above with the following men will compose the Board of Directors: J. A. Butler, E. W. Beadel, F. L. Rentz, and H. G. Preston.

Carload Contracts Keep Plant Busy

The F. R. Thomas Clay Products Co., Central Bank Bldg., Memphis, Tenn., organized this season, is filling quite a number of carload contracts in Memphis and neighboring towns on brick and terra cotta materials.

Building Large Addition to Warehouse

The Fischer Lime & Cement Co., Memphis, Tenn., wholesalers and retailers in fire brick, sewer pipe, terra cotta and general building materials, have taken out a permit for the erection of a \$75,000 addition to their handsome warehouse and sales offices on Walnut St. The firm operates a large branch in Little Rock and has quarry interests in Arkansas and Mississippi.

Displaying Fine Lines in Memphis

W. J. Northcross Mantel & Grate Co. is erecting on Madison Ave., a few blocks east of Main St., Memphis, Tenn., a handsome brick structure that will be utilized for its display rooms. They carry a fine line of mantels, tile, hearth decorations, wainscoting, grates, etc. They also have ware-rooms on S. Third St., Memphis.

A. E. Niemeyer Mantel Co., 194 Union Ave., Memphis, Tenn., also shows this spring an extensive line of tile and mantel assortments. They have been established a good many years in Memphis.

Purchases Tennessee Brick Plant

The Holston Brick Co. purchased the Oliver Springs Coal & Clay Co.'s plant at Oliver Springs, Tenn., on April 1. The plant of the above company consists of eight modern down-draft kilns and considerable brick machinery, as well as six thousand acres of shale beds suitable for the manufacture of various clay products. Furthermore, they have three seams of coal on the property which run from thirty-six to forty-eight inches in thickness. This coal is mined and used on the plant, which makes this concern practically independent from outside points. New machinery is now being installed

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The massive construction and great power which are found combined in

Bucyrus Steam Shovels

have made them famous the world over for long life, economic operation, high steady output and power.

Let our representatives tell you what they can do for you.

110-C—3½ to 6 cubic yd.	78-C—2½ to 3½ cubic yd.
103-C—3½ to 5 cubic yd.	68-C—2½ cubic yd.
88-C—3 to 4 cubic yd.	

Also all sizes revolving shovels and dragline excavators.

Send for Bulletin AB

BUCYRUS COMPANY
SOUTH MILWAUKEE, WIS.

New York, Chicago, Cleveland, Birmingham, Minneapolis, Denver,
Portland, Ore., San Francisco, Salt Lake City, London 187

which will increase the capacity of the plant to 75,000 brick per day, including face, common and fire brick.

The officers of the company are: Milton McDermott, president and treasurer; John D. Key, who is president of the Key James Brick Co., of Chattanooga, vice-president, and Malcolm McDermott, secretary.

Large and Growing Demand for All Clay Products in Memphis, Tenn.

In the face of a very large demand for brick of all kinds, brick industries at Memphis, Tenn., are quite active. Old plants have been overhauled and new machinery added. New organizations have been placed in the field. The numerous agencies dotting the sky-scraper district represent most of the well established lines and some of their sample rooms are quite attractive. The trade in terra cotta ornamentation, in tiles for mantels, halls, baths is also brisk. No large plan is drawn these days in the southern building trade that does not contemplate these articles. Architects are requested to give special attention to these points. Handsome tile roofs are seen here by the thousands and while of course a great many other roofs prevail, the most artistic homes have given attention to this feature. In the old days it was slate and some still adhere to slate but in that swell district extending around the Speedway, around Overton Park and thru Bellevue, Annesdale, something of the multiplicity of effects in tile can be gathered. Then in business structures a great deal of clay material is being used in the fire-proofing and interior wall sections. One Memphis dealer said for the last three years his business in these lines had steadily grown.



The Acme Brick Co., Fort Worth, Tex., has increased its capital stock from \$200,000 to \$650,000.

Sinton Brick Co., a New Incorporation

The Sinton Brick Co. has been incorporated at Sinton, Tex., with a capital of \$12,000. The incorporators are D. T. Reed, J. B. Oatman and N. B. Gloin.

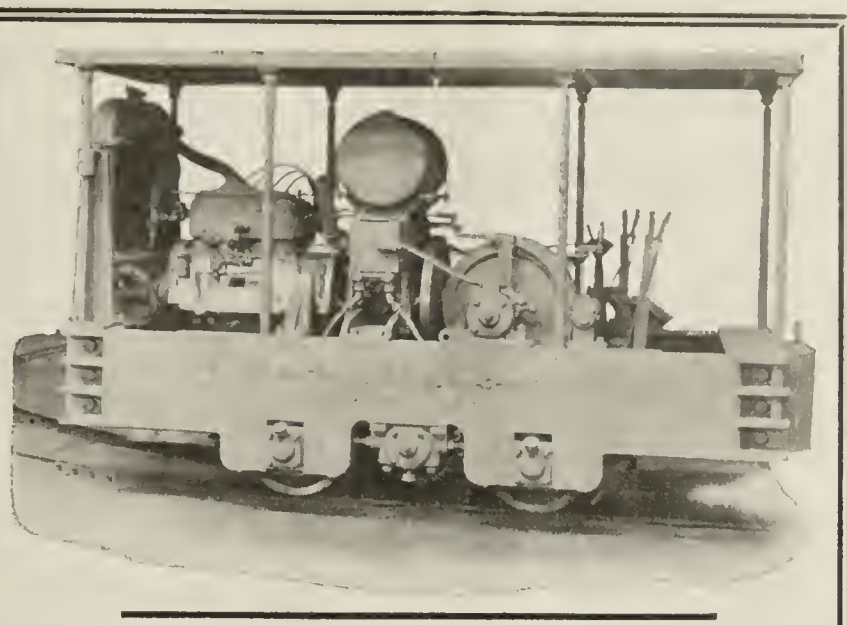
New Incorporation at Ferris

The Kooken Press Brick Co. has been incorporated at Ferris, Tex., with a capital stock of \$85,000. The incorporators are J. A. Smith, C. E. Kooken and J. M. Batchler.

Stillman Estate Sells Brick Plant

One of the many and widely scattered property interests of the late James Stillman, chairman of the executive board of the National City Bank of New York, was a brick manufacturing plant at Brownsville, Tex., close to the mouth of the Rio Grandé. This industry was established many years ago and was operated with great success, it is stated. Mr. Stillman was born and reared in Brownsville. His father, Charles Stillman, made the nucleus of his big fortune in dealing in cotton thru Brownsville during the Civil War. James Stillman left Brownsville when a youth establishing himself in New York.

E. C. Forto, resident agent at Brownsville of the Stillman estate, has just sold the brick manufacturing plant to H. Goldammer of Harlingen, Tex. The kilns as they stand at present, have a capacity of about 100,000 brick per week, and Mr. Goldammer will operate the plant to its full capacity. In addition to the facilities already at the plant, its new owner plans to construct an extensive system of working and storage sheds on the ground.



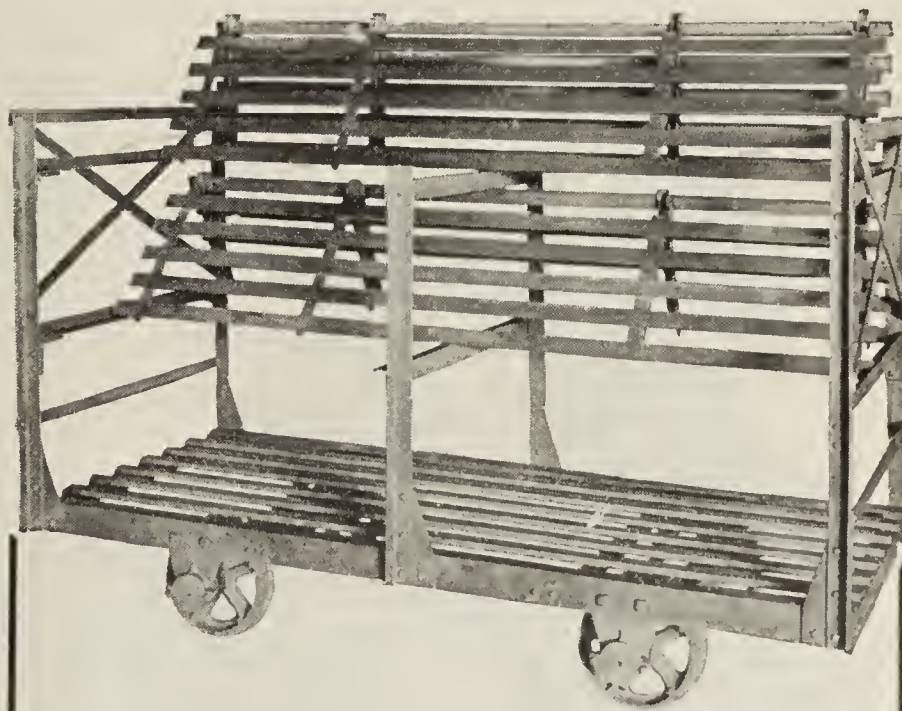
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are built to operate under any weather conditions efficiently and economically, forming a power unit of hauling clay in plant yards and pits.

Simple—Easily handled. No gears, differentials or clutches. Forward and reverse at any speed. Positive control.

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The more dryer cars we build and the larger number of satisfied customers we have, the more confident we are of satisfying you.

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Decrease
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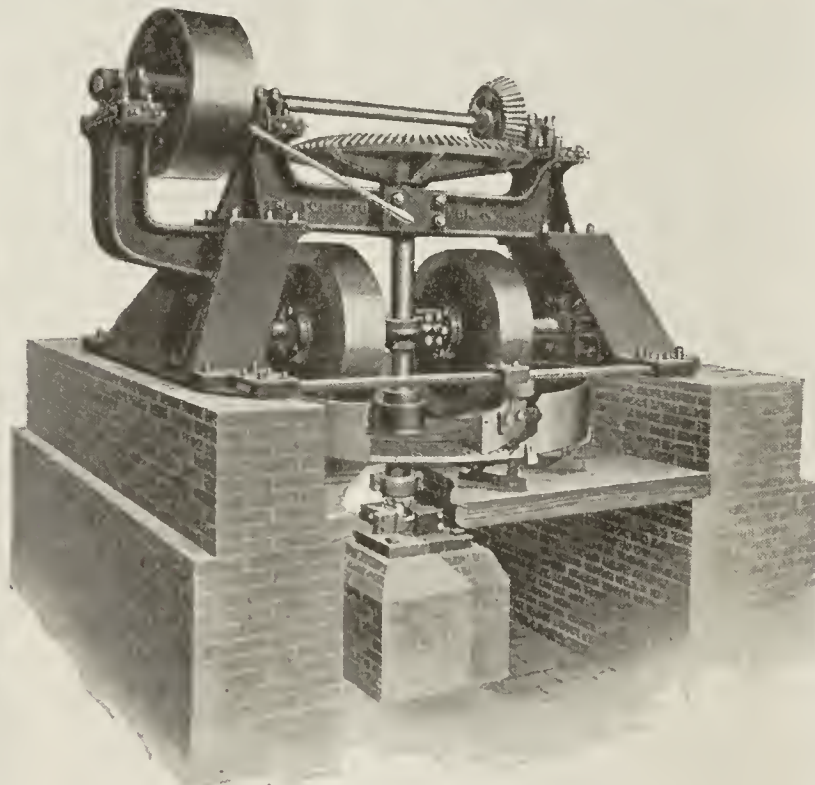
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Type "B" Dry Pan, 9 ft or 10 ft. sizes

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Toronto Foundry & Machine Co.
Toronto, Ohio

Will Do Shipping by Motor Truck

The Drury Brick & Tile Co. of Essex Junction, Vt., has asked permission to operate a six-ton truck on the streets of Winooski, across the river bridge, and in the city of Burlington. The matter has been taken up with the state highway commission. The company plans to do much of its shipping this year by motor truck.

New Plant Ready for Operation

The Big Horn Basin Clay Products Co.'s plant at Lovell, Wyo., is now completed and will commence operation in the manufacture of drain and glazed tile on the tenth of May. The new factory ranks among the most up-to-date in the Northwest. The equipment of the new plant includes a 300 h. p. Corliss engine, a six-mold dry-press machine, which is installed and will be ready for operation by May 1, two 26-foot kilns, which are already completed, and six more will be constructed by Charles Kline, of Great Falls, Mont.

Inasmuch as Lovell is situated in the largest natural gas field in the United States, this fuel will be used for burning the clay products. The concern has a large enough market in the Big Horn Basin to practically take care of its entire output in sewer pipe, drain tile, hollow building tile and brick.

The officers of the company include Geo. W. Warren, of the Astoria National Bank of Astoria, Ore., president; Warren Overpack, vice-president and general manager; H. F. Bird, secretary, and J. T. Brewer and W. B. Dickson, directors.

New Incorporations and Changes in Canada

John Wardrop Brick & Tile Co. Ltd., Winnipeg, Man., have been incorporated with a capital of \$100,000 to manufacture and deal in brick, tile, terra cotta, sewer pipe, and other clay products. John Wardrop, manufacturer, is interested.

Phinn Bros., of Lucan, Ont., have purchased the business of the Grimsby (Ont.) Brick & Tile Co., and will carry on business at Grimsby under the same name.

H. L. White, Winnipeg, has been appointed agent and attorney for the Manitoba Clays and Buildings Supplies, Ltd., Winnipeg, Man.

Orillia has carried a by-law granting a free site and fixing the assessment of the Glasscoat Sewer Pipe & Conduits Ltd. This company will put up a factory in Orillia and bring the clay from Washago at the north end of Lake Simcoe. It is expected that they will be ready to make sewer pipe by August.

Lethbridge Brick Co., Lethbridge, Alta., has commenced operations with a capacity of 15,000 brick per day. This will be increased to the full capacity of 35 thousand brick per day very shortly.

Ceramic Industries, Ltd., 305 London Bldg., Vancouver, B. C., have been incorporated with a capital of \$50,000 to manufacture and deal in brick of all kinds, terra cotta, tile, and other clay products.

Whitby Brick & Clay Products Co., Whitby, Ont., have purchased a brick plant and will spend \$25,000 on alterations and extensions. Wm. Baines is manager.

—And Even in Canada

Hollow tile was given quite a boost in a recent issue of a Canadian newspaper when the following item was published:

"It is possible to build a tile house, plastered inside and out, as cheaply as a wooden house, according to one Moose Jaw (Sask.) builder. On account of the great rise in the price of lead and oil, paints have gone out of sight, and a tile and plaster house calls for a minimum of paint, and this

is only one of several ways in which such a house reduces the final cost to the builder."

It appears from the clipping that the prairie cities in western Canada are experiencing an enormous increase in cost of frame construction and hence other building materials are being given more consideration than heretofore.

✱ ✱ ✱

Some Interesting Figures on Building

Harry Walshaw, city engineer, Toronto, Ont., has worked out the cost of building per one hundred square feet of wall surface and he finds that brick and tile which have advanced only a few dollars per thousand, give a cheaper construction than lumber which has advanced over one hundred per cent. His figures are as follows:

8-inch Tile Stucco

Cost of Tile	\$16.95
Teaming	1.20
Cost of Setting	6.85
Stucco	7.80
<hr/>	
	\$32.80

4-inch Studs and Siding, Double Boarded

Cost of 2 x 4's.....	\$ 2.95
Labor	1.50
Shiplap	1.90
Labor	3.00
Lathing	2.20
Siding	7.50
Labor	3.00
Painting	4.95
Paper and Nails.....	1.00
<hr/>	
	\$36.00

✱ ✱ ✱

Report on Tests Made from Canadian Clays

In a report just issued by Joseph Keele, B. Sc., chief engineer ceramic division, Mines Branch, Ottawa, considerable attention is given to tests made from clays in British Columbia and Eastern Ontario. Some extracts from this report may prove of interest to readers of *Brick and Clay Record*, especially those who are looking for a Canadian clay bed. Recently there has been a big demand for these.

Stoneless glacial clays suitable for brickmaking occur in the valleys of British Columbia from the coast far into the interior along the principal rivers flowing into the Pacific. These clays are generally laminated and often interstratified with layers or beds of sands. They are referred to in geological reports as the white silts but their colors really vary from light grey to yellowish.

The silty clays in the Nicola Valley and on the Fraser and Thompson, burn to a red color but those in the upper Columbia Valley along the Windermere Lakes contain a very high percentage of lime and burn to a buff color and porous chalky body. All the brick plants in British Columbia use these silty glacial clays in the manufacture of common brick. Clays of this description have been collected from a number of points and tested in the laboratory. Common brick made by the soft mud process are, as a rule, the only class of clay product for which they are suitable—but at some localities, however, they are plastic enough to flow thru a die smoothly, so that they can be made into field drain tile. Some of the highly plastic varieties may be difficult to dry and have an unduly large amount of shrinkage, but these defects can usually be overcome by the addition of a certain amount of sand.

None of these clays are suitable for the manufacture of

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Bucket Elevators, Buckets, Boots, Steel Elevator Casings, Belt Conveyors, Screw Conveyors, Cable Conveyors, Gears, Pulleys, Sprockets, Chain Bearings, Shafting, Screens.

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manufacturing Flower Pots, Sleeves, Nozzles, Insulators, etc.,—if you have the right kind and dependable moulding machine.

The reason for the success of these machines is because they have speed, turn out ware that is better in quality and uniform in the moulding, and they require only unskilled laborers to operate them.

On these points are based your profits in the specialty business.

Send us a sample of your clay with your inquiry.

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Ceramic Equipment Company, a Subsidiary of
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COMPLETE *Automatic* STOVE ROOMS *and* MANGLES *for* CLAY *and* PORCELAIN

Conditioning Equipment
Continuous Automatic Sagger Dryers
and Special Equipment.
For Drying Pottery, Electric
Porcelain, Abrasive Products
and General Ware

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**"WE FURNISH A
COMPLETE JOB"**

Every drying machine we install is equipped ready for operation, with all necessary hangers, counter-shafts, steam connections, waste connections, so that all the purchaser has to do is to connect up a steam line, waste lines and power. No time lost.

Many years of experience have been spent by our engineers in designing and constructing efficient drying machinery and we are ready to stand behind our perfected products on each installation and guarantee each dryer to do everything we promise and meet the entire satisfaction of the customer, producing a better quality of ware, reducing the drying time and cutting labor costs to a minimum.

Let us send you proof of our actual accomplishments and lay a proposition before you.

Write Today

Ceramic Equipment Co.
TRENTON NEW JERSEY

vitrified wares as they soften and deform when overburned on account of their low fusibility.

In Eastern Ontario the largest area and thickest deposits of stoneless clay are of marine origin, and are the sediments laid down in the extensive body of water or estuary which occupied the St. Lawrence and Ottawa valleys during the waning stages of glaciation.

Such clays are most in evidence in the counties bordering the Ottawa River from its junction with the St. Lawrence River as far up as the town of Pembroke, in Renfrew County. They also extend up the Bonnechere River Valley as far as Caldwell, in Renfrew County.

Except for small isolated patches at Prescott, Brockville, and elsewhere, the marine clays are absent in the counties bordering the St. Lawrence River.

In the raw state the marine clay is of a monotonous grey color, occasionally it has a reddish-brown band or layers, but the prevailing color is grey. Where roads cross it they are generally bad and in prolonged wet weather are almost impassable, owing to the pastry mass of mud into which the clay becomes worked by the passing traffic.

This clay varies in thickness from a few feet to about 200 feet in some of the river valleys. The largest areas of clay occur in Russell and Prescott Counties.

The marine clays extend westward into Leeds, Lanark, and Renfrew counties, being worked for brickmaking at Brockville, Smiths Falls, and Carleton Place. To the west of these points the stoneless clays worked for brickmaking are different in some respects to the marine clay and are probably sediments deposited in former lake basins which were partly bordered by glacial ice.

The lake clays nowhere attain to the thickness or form such extensive plain-like areas as the marine clays of the Ottawa and St. Lawrence valleys, but are confined to small isolated patches in a region where the surface materials are mostly either stony clay, or sand and gravel, or large areas of bed-rock wholly bare or covered with only a thin coating of glacial drift. The deposits of lake clay are larger and more frequent near the shore of lake Ontario than in the upland region to the north. The small patch of stoneless clay at Tweed, in Hastings County, is the only brick clay deposit along the Canadian Pacific railway between Smiths Falls and Peterborough, a distance of 134 miles, while along the line of the Grand Trunk railway, situated much nearer the shore of Lake Ontario, there are several workable deposits of brick clays, besides those now worked at Kingston, Napanee, and Belleville.

The lake clays in eastern Ontario like the marine clays are of a prevailing grey color, but they are much oftener stratified in thin layers than the latter, which are more inclined to be massive and structureless, especially in the upper portion.

The lake clays are rather coarser in texture and not so pasty when wet, consequently the shrinkage on drying is not so great and drying troubles are not so frequent. The color obtained on burning all the surface clays is red, but at a few points the underclay burns to a buff color. The lake clays do not shrink so much on burning as the marine clays, and they will stand a slightly higher temperature without danger of overfiring.

CLAYWORKING INDUSTRY

The clayworking industry of eastern Canada is at present confined to the manufacture of common brick made by the soft-mud process and to field drain tile, using the stoneless surface clays for this purpose. The large shale brick plant at Russell, in Russell County, erected for the manufacture of face brick, was not in operation during the past season.

The common brick plants use the simplest means of production and the smallest possible amount of machinery, hence

they can afford to lie idle during the long winter period, as the interest charges on capital invested are small. There is a tendency to overload the clay with sand when making the mixture, and while this makes the working and drying easier and reduces the shrinkages, it also lowers the strength of the brick, the underburned ones especially being very weak and practically useless for structural purposes.

Fire checking is a common defect in the brick made at several of the yards using both marine and lake clay. This defect consists of cracks partly or wholly across the brick which consequently break in two or more pieces when handled. A series of experiments were undertaken to remedy this defect, with the result that the easiest method was to add about 1 per cent. of common salt to the wet clay when pugging. The addition of salt is very effective in assisting in the drying and afterwards preventing the fire checking. The salt addition is tried at the brickyard at Arnprior and has resulted in the elimination of the waste brick formerly accumulated there.

The amount of drain tile for agricultural purposes produced in eastern Ontario is quite inadequate to supply the demand. The plants making drain tile are two in Renfrew County, at Arnprior and Renfrew, one in Leeds County, at Gananoque, and at Foxboro, in Hastings County. These plants make brick as well as tile, but usually provide small round down-draft kilns for burning the tile.

SHALE DEPOSITS

Among the different shale formations which occur in eastern Ontario, only two, the Lorraine and Medina, were found suitable for the manufacture of brick and tile.

The Lorraine shale is found a few miles east of the city of Ottawa and extends about 16 miles eastward.

Outcrops are seen at Ramsey, Hawthorne, and near Vars, on the Grand Trunk railway, but most of the exposure shows only a few feet in thickness of the formation, so that it is difficult to estimate the character of the material without excavating.

It is apparently similar to the grey shale worked at Toronto and Mimico, in southwestern Ontario, but is more gritty and not nearly so plastic when ground and mixed with water. Its properties as far as the behavior on burning and the character of the ware produced is the same as Toronto material, but unlike the latter, cannot be used alone for the manufacture of hollow ware on account of its lack of plasticity.

A mixture of marine clay and ground Lorraine shale will make a very fine grade of hollow ware for structural purposes.

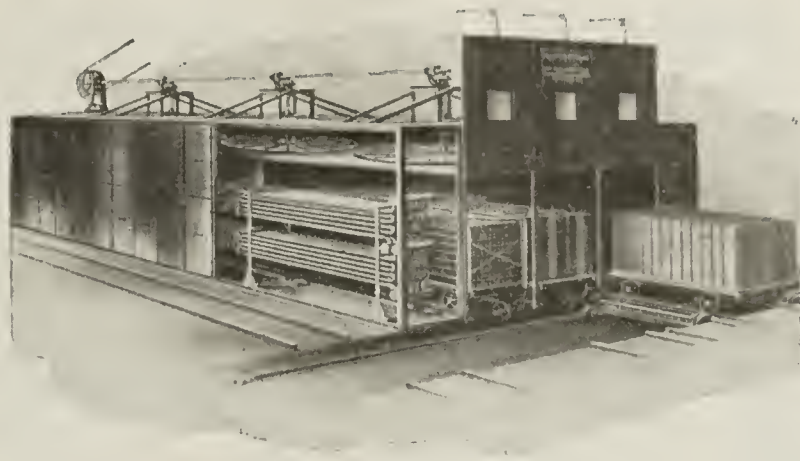
This shale does not seem to possess the vitrifying qualities which would ensure the production of paving block, which is unfortunate, as ware of this kind is required in Ottawa and Montreal and is very costly to import.

The Lorraine shale is not used at present in the clay-working industry of eastern Ontario, but the products which can be made from it include wire-cut common brick, tapestry brick, dry-press brick, fire-proofing, drain tile, floor tile, etc., with good red to brown color or flashed effects.

The Medina shale overlies the Lorraine and is restricted to a small patch of a few square miles in extent situated between the villages of Russell and Vars, in Russell County. This is a reddish, gritty material which when ground finely and mixed with water can be worked in stiff-mud machinery for the manufacture of brick.

Very fine red face brick, both rough plastic and dry-pressed, can be made from this shale, but it would require the addition of some of the highly plastic surface clays in order to produce hollow ware.

The largest clayworking plant in eastern Ontario is located at Russell, on the New York and Ottawa railway, for the



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purpose of working the Medina shales which outcrop about a mile north of the village.

This plant was not in operation during the last season and the stock of brick is exhausted. It is unfortunate that the fine brick made at this plant cannot be procured as it was the only good face brick produced in the district, so that brick of this class for use in Ottawa will have to be procured in Montreal or Toronto.

The Medina shale at Russell does not appear to be suitable for the manufacture of vitrified paving brick, as it is easily overfired and deformed owing to its short vitrification range.

Black fissile shale crops out on the east bank of the Rideau river, at Ottawa. The shale is rather gritty when ground finely and it carries a small amount of carbonaceous matter which causes trouble in burning. Good wire-cut brick or hollow ware can be made, however, by adding some of the marine clay which occurs overlying it.

Experiments made at the Mines Branch laboratories indicated that a mixture of equal parts of ground shale and marine clay makes a good working body in the raw state and with careful burning produces a good quality of structural wares.

The Merkleys Limited of Ottawa have installed the necessary machinery and have built a series of round down-draft kilns for making wares from the shale and clay mixtures.

* * *

To Increase Purchasing Power of a Dollar

The artist cartoonist or actor who wishes to delineate an American wage earner from now on will have to abandon the time honored costume of square paper cap and toil stained overalls. The wage earners have driven the silk shirts off the backs of the idle rich, according to New York haberdashers and hereafter any representation of labor without a silk shirt will be out of character.

Workers have made the wearing of silk shirts so common that those who make novelty in dress a hobby and life study have abandoned their wear. The market page of the New York "Times," in this connection says:

"Word comes from several representative buyers of men's furnishings that from now on they will feature the fine madras shirt instead of silk ones. Among the high class stores, it is said, there has been a gradual turning away from the silk shirts owing to the popularity they have found among the large number of artisans and laborers who now are spending their money on silk shirts and other luxuries.

"Besides this, it is explained that salaried men of means are showing more of a tendency to retrench and therefore demand more lasting fabrics than silk. Whatever the reasons, the demand for silk shirts from the higher class stores has not been so large and a preference is now being shown for madras and Russian cord materials."

The Savings Division of the Treasury Department has consistently urged Americans to abstain from the spending of money on unnecessary luxuries not only as a means of counteracting the high cost of living but to defer spending wherever and whenever possible in order that advantage may be taken of the eventual fall in prices and increase in the purchasing power of the dollars. It is pointed out that money saved now and invested in War Savings Stamps, Treasury Savings Certificates and Liberty Bonds will, in all probability, have a far greater purchasing power and be equally available when economic conditions due to the war readjust themselves.

* * *

"It requires but an instant to say 'thank you'—but many begrudge the time."

MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories
and Detailed Announcements that Our Ad-
vertisers Believe Will Interest Our Readers

Recognition From War Department

The following is a copy of a communication presented by the War Department at the New York Chamber of Commerce, April 15, 1920, to The Roessler & Hasslacher Chemical Co., in recognition of the service rendered by that company in connection with the prosecution of the recent world war.

The War Department of the United States of America recognizes in this Award for Distinguished Service, the Loyalty, Energy and Efficiency in the Performance of the War Work by which The Roessler and Hasslacher Chemical Co. aided materially in obtaining victory for the arms of the United States of America in the War with the Imperial German Government and the Imperial and Royal Austro-Hungarian Government.

(Signed) NEWTON DEAL BAKER

Secretary of War

MAJOR B. CROWELL,
Asst. Secy.

✻ ✻ ✻

Motor Truck Advantages

C. E. Fogle, Traffic Manager of the Heppes Roofing Division of the Richardson Co., made the following statements recently regarding their motor delivery:

"It is not how a motor truck starts off but how it stands the gaff in service that proves its mettle—and the fact that our first Diamond T, a 4-tonner, bought 8 years ago, is still giving good service 10 hours a day, shows the sturdy construction and good value in those trucks. This fine steady service has caused us to standardize on Diamond T's and we have three more, 7, 5 and 3 years old, of 1½, 3 and 5-ton capacity.

"These trucks deliver material from our Chicago factory to all points within a radius of 40 miles, quicker and cheaper than the railroads can do it; and this better service pleases our customers and has been a big factor in the rapid expansion of our business. Materials delivered right at the customer's doors or at the building jobs with no claims for lost or damaged goods have meant less trouble and bother for us as well as our customers.

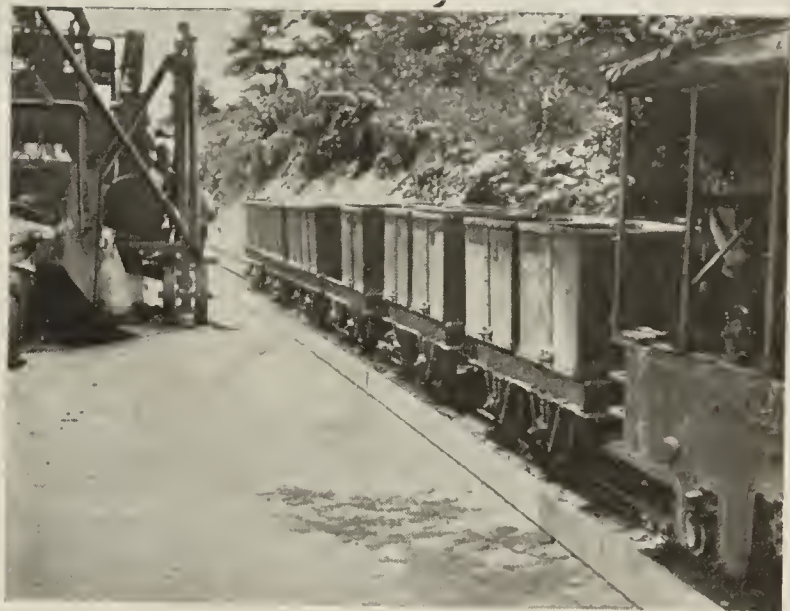
"Although three of these solid old freighters have passed the 5-year mark, every one of the four works hard and steadily, carrying from 8 to 15 tons from 25 to 100 miles a day. Repair charges have been very low because the machines are sturdy, and so simply constructed that our own mechanic along with his other duties can easily replace worn parts.

"Depreciation couldn't very well be any lower than we have



Diamond T Truck, Such as the Heppes Roofing Division of the Richardson Company are Using so Satisfactorily.

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In modern construction for economy as well as speed, materials must be moved in more than one-man loads. Easton cars are made for concrete aggregate in all its stages—hopper and dump cars for broken stone, platform cars for bagged cement, batch cars to carry the aggregate from storage to mixer. And if conditions are such that cars of standard Easton design are not most efficient, we design and make cars to meet your own problem.

All the rest of the equipment for a portable railway—tracks, turntables, switches and minor parts, as well as cars of every description are Easton made, with all the benefit to you of twenty-five years' experience in planning, designing, and manufacturing industrial railway systems.



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Bungalows, Camps and Mountain Houses.....	2.00
Ceramic Industries—A Treatise On (E. Bourry).....	6.00
Clay and Pottery Industries.....	6.00
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Address, Book Department,

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610 Federal Street, Chicago, Ill.

found it, for after charging off 20 per cent. a year for the first 5 years, we have 3 of our trucks "running on velvet." The appraisers recently set a value of well over \$1,000.00 apiece on these same trucks and they were put back on the book.

"They are good for several more years' service. Our drivers like these Diamond T trucks and because of this take unusually good care of them keeping the trucks well oiled and greased. All of our drivers have been with us over three years."

* * *

Mr. Lyle Stockton Abbott now heads the Eastern Sales Department of the Celite Products Company, 11 Broadway, New York City, manufacturers of Sil-O-Cel Insulating Products. Mr. Abbott succeeds Mr. H. A. Mannshardt who recently resigned.

The company is issuing an interesting bulletin known as B-6a, describing the insulation construction of different types of boilers.

The bulletin is illustrated with diagrams and views of various installations and copies will be sent on request to all persons interested.

* * *

"Ed." W. Dow—known practically everywhere in the clay products field—has moved his headquarters from Columbus to Chicago, where he will continue to represent the Stevenson Company of Wellsville, Ohio. Mr. Dow's address is Monadnock Building, Chicago.

* * *

International Clay Machinery Co., Dayton, Ohio, state that since the National Convention they have sold in the neighborhood of 300 furnace gas producers, without putting forth any special selling effort. This would certainly indicate a progressive spirit on the part of clay products manufacturers.

* * *

Roessler & Hasslacher Chemical Co. announce the removal of their offices from 100 William Street, New York City, to 709-17 Sixth Avenue, corner of 41st Street, which took place about April 1st.

* * *

Bulletin No. 111, issued by the Mid-Continent Equipment & Machinery Co., Security Building, St. Louis, Mo., for the month of April, gives an extensive list of rails, tanks, cars, steam shovels, locomotives, etc., for sale. They will be glad to send you a copy.

* * *

A Lost Soul

Breathes there a man with soul so dead, who never to himself has said, "My trade of late is getting bad, I guess I'll use a ten inch ad." If such there be, go mark him well, for on him no bank account shall swell; no angel watch the golden stair to welcome him a millionaire.

The man who never asks for trade by local ad or line displayed, cares more for rest than worldly gain, and patronage but gives him pain. Tread lightly, friends, let no rude sound disturb his solitude profound; here let him live in calm repose, unsought except by men he owes, and when he dies go plant him deep, that naught may break his dreamless sleep; wherein no clamor may dispel the solitude he loved so well. And that the world may know its loss, plant on his grave a wreath of moss, and on a stone above. "Here lies a chump who wouldn't advertise."

But he who hustles night and day to bring the trade along his way; and who identifies his name with brick that bring him added fame; he never in despondence dwells, for brick like his will sell themselves.

So, friend, if you are feeling glum because your "biz is on the bum" don't moon around and think and think, but use a lot of printer's ink. That evil time will never come if you start NOW and advertise.—F. L. Hopley.

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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To

decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

The National Grouch

THE AVERAGE CITIZEN at the present writing is hopelessly obsessed with a seemingly incurable and acute attack of grouch.

You see evidence of it on every hand.

The other day two men were eating lunch in the dining car of a "fast train," engaging in conversation the while. They had started with soup and were ready for the pie which the waiter soon placed before them. One of the gentlemen looked at the pie—the other called the steward. Said he, "Do you mean to say that you expect to charge me twenty-five cents for this piece of pie?" The steward discoursed on the price of apples, the cost of flour, and so forth. Said the man, "I can buy a whole pie for a quarter. I think this is robbery,"—a rather unpleasant climax to a usually pleasant occupation.

The men arose and left the car. Two others—strangers—took their place.

For some inexplicable reason, the male of the species seems to have a "soft spot" for pie. This product of the culinary art in the course of events, was again set before these travelers. This time the steward was not called but the pair indulged in an animated discussion of profiteering in pie. Their grounds of complaint were, interesting to note, the same as the pair that had preceded them.

The other day a well known business house received a letter. This is nothing unusual, of course, but the letter was unusual.

"Pardon this answer on your own paper," said the writer, "but some one ought to practice economy and the way to begin is with yourself. We have also saved ink by writing this with a cast away stub of a pencil."

These illustrations are simply a few of the many that come to us in the course of the day's work. They reveal a state of mind which is exceedingly worth while studying.

The fact of the matter is that all profiteers

are "in bad," whether it be the restaurant keeper who "soaks" you a quarter for a cut of pie, the clothing merchant who with an air of perfect confidence asks you \$60 for a suit of clothes, the material in which makes shoddy look like broadcloth, in comparison, or the hotel man who pleasantly informs you that he has a reasonable room all ready for you at not more than \$5 per day—they are all "in bad."

We are glad to say that we have had very little profiteering in brick or other clay products. The lumberman is at present busily engaged in framing alibis for the present price of lumber, and eastern newspapers not long since have been filled with the cry of "cement trust," but the "brick trust" (whatever that may be), seems to have provided politicians and "public servants" very little campaign material.

Chicago, while it may be said to present an unusual situation, is, we believe, a good example of the absence of profiteering in brick. In 1914 common building brick in the "I Will" city was **\$7 delivered on the job**. Today the same product is selling at \$16, an increase of something more than one hundred per cent. This compares favorably with advances in many other commodities all the way from two to three hundred per cent.

An examination of current quotations covering brick in most cities of the United States does not, however, reveal the true situation. Many manufacturers have old orders on their books at prices much below present market. These orders will keep the plants busy for many weeks, if not months, before brick will be moving at prices that represent the present levels.

While this situation may furnish just cause for congratulation, nevertheless it should also provide a wholesome lesson. Many plants are over-sold six months with from three to five years of active building ahead. If the clay products manufacturer has not yet yielded to the temptation to indulge in the popular "in-door" and sometimes "out-of-door sport," of profiteering, **now would be a poor time to begin.**

Present prices are not an insurmountable barrier to the man who really wants to build. It would be foolish indeed to create obstacles at a time when the public mind is in a bad mood to receive any news of disproportionate advances.

* * *

Home Building Takes on New Life!

THE STEADILY DIMINISHING volume of residence construction has been repeatedly pointed out in recent issues of this magazine. Residence construction comprised only nineteen per cent. of the total amount of building during the first quarter of 1920. It should have represented about thirty per cent. of the total, and at the present time, at least forty per cent. in view of the existing shortage.

Figures covering April building operations are now available.

It is encouraging to learn that the outstanding feature of these statistics is the fact that residential building has, after lagging behind for some months, resumed the place of prime importance over all other classes of construction. Figures on awards of construction in the territory north of the Ohio and east of the Missouri rivers during April give to residential building **thirty-one per cent. of the total.** This compares favorably with nineteen per cent. which was the record of the first quarter of the year.

The total amount of contracts awarded during April, 1920, according to the F. W. Dodge Co., was \$334,007,000. This shows a slight increase over the March figure, which was \$327,897,000, and a very considerable increase over the figure for April, 1919, which was \$188,852,000. The total for the first four months of 1920 amounts to \$1,114,415,000 as compared with \$464,407,000 for the four months of 1919.

An analysis of the April figures shows \$103,743,000 or thirty-one per cent. for residential buildings; \$65,498,000 or twenty per cent. for public works and utilities; \$62,181,000, or nineteen per cent. for industrial buildings, and \$57,115,000, or fifteen per cent. for business buildings.

National Chamber Warns Against Cash Bonus

IN ANY ISSUE so far reaching as the measure now in Congress proposing to grant service men a cash bonus in consideration of the disadvantage they suffered while doing a patriotic duty, it is imperative that business should register its opinion. The Chamber of Commerce of the United States has done this stating its views in the form of a resolution passed at the recent "production convention" held at Atlantic City. The resolution reads:

"The Chamber of Commerce of the United States deplores any tardiness in generous treatment for all persons in the armed forces who were disabled or sick in consequence of their service in the great war, as well as for the dependents of those who lost their lives, and advocates immediate provision for them in accordance with their just dues. The National Chamber approves such constructive measures as may be directly calculated to enable such persons to cultivate the soil, build homes, or obtain vocational training. **It warns, however, against a general cash bonus given without discrimination.**"

That this is a sane and reasonable attitude to take, we hardly need question.

Very few will dispute the fact that those who served for a dollar a day are entitled to some consideration, when others remained in comfortable homes enjoying all of the accompanying conveniences, removed from danger, and receiving in many cases ten times as much compensation.

It is not a question of justice but of expedience. Under present conditions there is a two-fold objection to the bonus plan.

A billion dollar bond issue providing the necessary funds for paying the bonus would, almost without question, precipitate a panic. A sales tax would further increase the high cost of living.

The distribution of a cash bonus at the present time, wise men feel, would bring on an orgy of spending and extravagance which would pale any prior performance into dim insignificance. This may not be a very popular stand to take, but these are the facts.

LEADERS *in* BUSINESS

COUNSEL *on* COURSE *for*

GOOD SHIP "INDUSTRY"

Representatives of Hundreds of Nation's Diversified Industries Discuss Vital Issues of Labor, Car Shortage and Lessened Production at Chamber of Commerce Meeting

FIVE THOUSAND successful keen-minded American business men, representing practically every great industry of the western hemisphere, and individually and collectively dominating the trade and commerce of the new world, made up the personnel of the Eighth Annual Meeting of the Chamber of Commerce of United States, at Atlantic City, April 26-29th. It was for many reasons the most important and notable meeting this body has held to date.

As its key-note, it sounded a three-fold plea to every patriotic American, in these words: "United America in a universal drive to promote American ideals, increase the production of necessities to normal, and fear nothing but failure to do one's full duty as a loyal, patriotic citizen."

Suiting the action to the word, the Eighth Annual Meeting increased its seven-fold departmental organization by the addition of a Standing Committee on American Ideals, the work of which will be supervised by the Civic Development Department.

To emphasize the practical thought behind this move, the Board of Directors authorized the new Committee to create a Bureau of Inquiry and Information concerning enterprises, operating nationally in philanthropic and patriotic fields, and empowered it to receive funds for the specific purpose of the promotion of American ideals, to be disbursed from its treasury under such rules or regulations as the Board shall prescribe.

The work of the Civic Development Department will be under the special supervision of Directors A. L. Humphreys, Pittsburgh, Pa., and W. S. McLucas, Kansas City, Mo.

PERSONNEL OF CHAMBER'S SEVEN DEPARTMENTS

In addition to this advance step, the Chamber authorized the progressive development of the following seven departments of its national activities, under the immediate direction of the directors named:

Domestic Distribution Department:

For two year term; Thomas E. Wilson, Chicago, Ill.

For one year term; Theodore F. Whitmarsh, New York, N. Y.

Natural Resources Production Department:

For two year term; Charles S. Keith, Kansas City, Mo.

For one year term; Henry C. Stuart, Richmond, Va.

Transportation and Communication Department:

For two year term; Howard Elliott, Minneapolis, Minn.

For one year term; Lewis B. Stillwell, New York, N. Y.

Insurance Department:

For two year term; James A. Carney, Boston, Mass.

For one year term; James S. Kember, Chicago, Ill.

Fabricated Production Department:

For two year term; Dorr E. Felt, Chicago, Ill.

Selection from present membership of Board, one year term
Clarence H. Howard, St. Louis, Mo.

Finance Department:

For two year term; John W. Staley, Detroit, Mich.

Selection from present membership of Board, one year term
Lewis E. Pierson, New York, N. Y.

Foreign Commerce Department:

For two year term; George Ed. Smith, New York, N. Y.

Selection from present membership of Board, one year term
Frederick J. Koster, San Francisco, Cal.

The following nine members were chosen District Directors:

Bernard J. Rothwell, Boston, Mass.....	District I
Ernest T. Trigg, Philadelphia, Pa.....	District II
John M. Crawford, Parkersburg, W. Va.....	District III
M. J. Sanders, New Orleans, La.....	District IV
John L. Powell, Wichita, Kansas.....	District V
Edwin Clark Gibbs, Cincinnati, Ohio.....	District VI
William J. Dean, St. Paul, Minn.....	District VII
Clyde C. Dawson, Denver, Colo.....	District VIII
Nathan Strauss, Portland, Ore.....	District IX

MOTOR TRUCK TRANSPORTATION

The topics of main importance to the clay products men, included a significant discussion on uniform cost accounting and the problem of transportation and production. The subject of motor truck service expansion as a means of immediate assistance in solving the difficulties of freight distribution occupied one of the most prominent places of the entire Chamber of Commerce meeting.

That the highways of America are rapidly being improved to meet heretofore undreamed of possibilities, was the news brought by many speakers in touching upon that fact.

Perhaps the most comprehensive and astonishing statement on this subject was that delivered at the Wednesday morning session by Geo. M. Graham, general sales manager of the Pierce Arrow Motor Car Co.

Showing the tremendous importance of truck distribution at the present time, Mr. Graham pointed out that while production has heretofore moved its wares over some fifteen thousand miles of canals and inland waterways, and some 250,000 miles of railways in the United States, there are no less than 2,753,334 miles of highways, a large portion of whose points of distribution are not reached by either of the first two mediums.

"Motor trucks properly applied can aid the railways in the immense task of serving 105,000,000 persons, spread out over 3,000,000 square miles. We have never simultaneously used all three kinds of transportation to top efficiency," declared Mr. Graham.

Continuing, he pointed out that the railroads have temporarily reached the limit of their capacity. The greater

use of the motor truck would involve no attempt to compete with the railroads in long-distance work.

But it is not with the possibility of motor truck use for short hauls and for relieving congestion at terminals that great profits may be achieved.

Already, 78,000 farmers are using motor trucks for the disposition of food. There are no less than 3,000 regularly developed rural motor express lines.

The greatest need today is for the development of better road-ways for the use of this new factor in distribution. It is estimated by figures developed at a congressional investigation that waste due to unimproved roads exceeds the appalling sum of \$500,000,000 yearly.

For this reason, the passage of the Townsend bill now before the Senate of United States, which calls for a national system of high-ways to be built and maintained by the Federal Government at a total expenditure of \$425,000,000 thru a period of five years, is of vital importance to American business.

JUST HOW THE MOTOR TRUCK HELPS OUT THE TRANSPORTATION PROBLEM

Mr. Graham pointed out that over territory embracing a maximum distance of 100 miles from a central point, the motor truck was unquestionably the most economical and efficient means of disposition.

The great strain in our modern transportation systems is to be found at the terminals. Freight cars move on an average of only 25 miles per day. We also have the spectacle of something like 2,400,000 freight cars with an average capacity of 50 tons carrying seldom as an average more than 32 tons in carload lot shipments and 7 tons in L.C.L. shipments.

If we could, by abolishing terminal delays, make the daily average mileage $37\frac{1}{2}$ miles per car, there would be a 50 per cent. increase in efficiency, a possible equivalent of an addition of 1,200,000 cars.

TRANSPORTATION AND PRODUCTION

The great problem of securing adequate distribution of necessities at the present time, was thoroly covered from every angle of interest by well-informed speakers representing the railroads, the motor truck industry, the good roads' organizations and the manufacturers.

Roy V. Wright, Vice President and General Manager, "Railway Age," speaking before the departmental meeting of business and daily press representatives, epitomized the question in these words:

"Railway transportation is today the limiting factor in production in this country. This condition, acute as it is in many of the industries, promises to continue for a considerable time. The underlying causes for this shortage of transportation are the lack of sufficient equipment and facilities and the low morale which now exists among railway workers.

"In addition to the vast sums which must be spent for ordinary maintenance and to take up deferred maintenance caused by war conditions at least six billion dollars should be expended from capital account within the next three years to provide equipment and facilities needed to put the roads in normal condition for handling the steadily growing traffic.

"Over-regulation has killed the credit of the roads. The new Interstate Commerce Commission must see that this condition is remedied and that the roads are allowed to charge such rates that investors will be encouraged to buy their securities and help them to finance the additions which must be made if the roads are properly to serve the public. If this is not done, production will continue to be restricted

and the progress and prosperity of the country will be seriously curtailed.

"Unfortunately, even if the funds were available immediately, it would take some considerable time for the railroads to secure the necessary equipment and enlarged facilities. Meanwhile the public in its own selfish interests should put forth every effort to cooperate with the roads in order to secure the greatest possible use from the existing equipment and facilities. Excellent results were obtained in this way during the war but unfortunately there has been a falling off in this cooperation since the signing of the armistice. It is just as necessary today, if not more so, than it was then and the business papers can do much to revive the former intense spirit of cooperation.

The low morale among the employees is not very different from that existing to a greater or less extent thruout the business and industry of this country. Increased production and a lower cost of living will not be brought about until this condition is changed. The business papers have a distinct responsibility in educating the men in their respective fields to the necessity of doing their part in raising the morale of the forces generally.

"The delay in passing the Transportation Act and returning the roads to their owners kept the railways out of the markets until recently and they are now finding great difficulty in getting deliveries on such materials as they need. Other industries, less essential to the prosperity of the country as a whole, would do well to allow the railroads priority on such materials as they need. If they do not they will shortly find themselves hampered because the railroads, lacking these materials, will be unable to handle their business.

NEED FOR BETTER KNOWLEDGE OF COSTS

"The fact that eighty per cent. of those who fail in business fail because of a lack of business methods, is an old story, but should be repeated whenever the question of cost accounting is up for consideration," declared H. Euhlinger, assistant treasurer of the Hilo Varnish Corporation in his address before the United States Chamber of Commerce meeting Wednesday, April 28.

"In plain words, men fail in business because they don't know their business. Men engaging in business enterprises are usually well intentioned. Few deliberately plan to fail or to steal."

Mr. Euhlinger proceeded to suggest the development of a business service policy which would provide for cooperation between business men and their customers in such a way as to have a great percentage of unnecessary failures.

"Members of the Chamber of Commerce of the United States," he stated, "I charge you with the responsibility of teaching your customers what constitutes the cost of doing business, the right way to figure profits, how to conduct a credit department, to make collections effectively to eliminate waste, the importance of sound accounting methods; how to plan, produce, price and supervise their business, not after they are in the clutches of the bankruptcy courts but long before, so as to prevent their ever failing at all.

"The financial world is in a state of chaos. Credit is strained, business is trembling, and men are wondering when the break will come. If concerns conduct their business properly there will be no danger. I believe the magic key to the door of national prosperity is business service. It is in the hands of the business men of the country, and it is expected of them that they will use the key, open the door and prove that *business has a soul and the soul of business is business service.*"

In its concluding session at Atlantic City, April 29, the Chamber of Commerce voiced its conviction on vital questions of the hour in a series of twenty-seven resolutions,

each one of which, previous to its adoption, had been thoroughly considered and discussed by the various departmental bodies from which a large proportion of the declarations originally came.

CHAMBER OF COMMERCE DECLARATIONS

These resolutions, briefly stated, declared:

That increased production is the only basic cure for present industrial conditions.

That a treaty of peace should be adopted without delay.

That the government should refrain from entering any field of transportation, communication, industry, and commerce which can be successfully undertaken and conducted by private enterprise.

That all possible effort should be made to develop greater respect and expression of American ideals, of liberty, representative government and enlightened rule of the majority and supremacy of the law.

That no line of cleavage or mark of separation should be drawn between the agricultural and industrial interests of the United States, and that membership of suitable agricultural organizations in the Chamber of Commerce should be invited on the same basis as that of commercial trade organizations now included.

That expeditious rehabilitation of railroads is of predominant importance, and to meet immediate need, every possible economy in use should be practiced, thru fuller loading of cars and promptness in loading and unloading.

That Congress be urged to expedite its consideration of an up-to-date merchant marine policy.

That improvement and maintenance of commercially meritorious harbor, river channels and canal projects should be immediately approved by Congress.

That all communities and industries served by traction lines should unite to aid in securing highest efficiency.

That pivotal industries in the United States, some of which have developed as a result of the war, should be adequately fostered by congressional legislation.

That every possible endeavor should be made to put an end to preventable waste thru fire which now approximates \$300,000,000 a year.

That the government should use its good offices toward the increase of supplies of paper from Canada, to remedy the present serious shortage now being experienced by the publishing industry.

That final disposition of plants and machinery used for war purposes should be made as speedily as possible.

That compensation for damages done by this government's own vessels to the property of private business enterprises should be equitably rendered.

That Congress should provide by additional appropriation for the further development of the bureau of foreign and domestic commerce so as to afford American industry commercial intelligence respecting conditions in foreign countries.

That Congress should enact legislation permitting creation in American ports of areas where foreign materials and goods can be received for manufacture, repacking, or other necessary handling and be distributed to foreign destinations, without expenses and delays heretofore entailed.

That any further changes in postage rates should await a thoro investigation of costs and determination of postal policies.

That Congress be urged to enact legislation providing for the immediate adoption of a budget system fixing upon the President the responsibility for the initiation of a financing program and reforming Congressional methods of raising and spending the public revenues.

That in view of the fact that war taxation continues in a period when many of the conditions upon which it was predicated have passed, that the chamber committee on taxation

is asked to submit a report outlining a constructive program of federal taxation for the immediate period of readjustment, same to be submitted to a referendum voting membership.

That the chamber approve such constructive measures in aid of disabled soldiers, sailors and marines, as well as bereaved dependents, as may be directly calculated to enable such persons to cultivate the soil, build homes, or obtain vocational training. It warns, however, against a general cash bonus without discrimination.

That the District of Columbia should be granted full American suffrage with representation in Congress.

That the organization of Junior Chambers of Commerce for the training of young men to good citizenship thru study of patriotic, civil, commercial, and industrial problems should be encouraged.

That adequate information respecting available supplies of food, fuel, truck and transportation facilities, and regarding men willing to respond and serve thru patriotic motives should be collected to aid in meeting industrial emergencies and in maintaining continuous supply of the necessities of life and of industry.

A large number of resolutions not noted above, be referred to the board of directors. These include declarations regarding the anti-trust law, the development of a business code relating to improvement in cost-accounting methods, highway construction, revision of the Revenue Act of 1918, relations with Russia, simplified taxation, and vocational rehabilitation of persons injured in industry.

* * *

Dr. Manning Resigns From Bureau of Mines

After thirty-four years of actual service with the Department of the Interior, Dr. Van H. Manning, director of the Bureau of Mines, tendered his resignation effective June 1, to President Wilson. Dr. Manning is leaving the government service to accept the position as director of research at the recently organized American Petroleum Institute, the most important body of petroleum men in the country.

In his letter to the President, Dr. Manning said, "In leaving the government service there comes to me, as it has over and over again, the thought that altho this government spends each year many millions of dollars in useful scientific work, for the benefit of the people, the monetary recognition of its scientific and technical servants is not sufficient to enable them to continue in the service of the people. This has been especially true within the last few years when it has been impossible for many men to remain in the government service."

President Wilson has nominated Frederick G. Cottrell, California, to succeed Mr. Manning.

* * *

Special Course for Summer Sessions

Rutgers College, New Brunswick, N. J., which stands high in the ceramic industry in the state, has arranged for a series of courses for its summer session. These will be inaugurated on June 28, and will include methods of teaching, manual arts, physical education, agriculture, American democracy, and a number of other important subjects. The course will be under the direction of Dr. Charles H. Elliott.

* * *

"'Courtesy first' is the motto of a large department store in Chicago, but 'thank you' is its golden text."

* * *

"'Thank you' is the 'hall mark' of culture in every educated man."

MATERIAL CONVEYING

Description of Several Types of Belt Elevators and Information That Will Aid in Their Efficient Operation

By S. R. Walsh

of the Goodyear Tire and Rubber Co. Ltd., Toronto, Ont. Second Half of a Paper Read Before the Recent Meeting of the Canadian National Clay Products Association

THE HANDLING of loose materials has become a big problem and in the last 40 or 50 years the belt conveyor has come to the front as being the most satisfactory and economical method of handling large quantities rapidly.

It is possible on the wider belts to operate them at speeds of 600 ft. a minute while on the narrower belts 200 or 300 ft. can be obtained without spilling the material conveyed. But the best engineering practice dictates that they be operated at about three-fourths of this speed. They have many advantages over their competitors amongst which is their low power requirements for the amount of material handled. Having no complicated machinery to get out of order and therefore requiring little attention, the upkeep is a very small item as far as mechanical equipment goes. And if proper care is given to the belt it should last for a long time. The conveying carriers are each a unit in themselves easily accessible and easily repaired all of which means freedom from shut down.

As the material handled comes in contact with the belt only, it is thus free from contamination by oil or grease. This is especially important where materials of a perishable nature are to be conveyed.

As the material only comes in contact with the belt and remains stationery upon it from the loading until the point of discharge is reached very little breakage of the material occurs. This is very important in handling of some materials such as coal.

The belt conveyor is an advantage in that it may be loaded at or may discharge at any point.

HOW CRACKING OF BELT OCCURS

To keep the material from spilling off of the belts the belt is troughed by means of rollers or idlers designed for that purpose. The troughing of a belt is desirable from the point of view of assisting it to carry the load but it materially shortens the life of the belt if the angle of the troughing is too steep. The bending of the belt from the trough to a flat shape as it goes over the head pulley and from the flat to the trough shape when it leaves the tail pulley causes the belt to crack at the point where the bending occurs. If a portion of the belt bent up is not too great of an angle of troughing and is not over 20 degrees the cracking will not occur until the belt is practically worn out. But in those cases where the trough is from 30 to 35 degrees and especially in those cases where a large portion of the width of the belt has been bent up the cracking begins long before the belt is worn out.

There are several types of troughing rollers which only vary slightly from the four main designs. They can be called the 2 pulley type, the 3 pulley type, the 4 pulley type and the 3 pulley offset. The 2 pulley type of roller is only used for narrow belts not exceeding 18 inches wide and if the pulleys are not steeply inclined it works very well. As the heaviest load is in the center of the belt we find that

in this type of roller that the belt is inclined to work down between the edges of the pulleys, which prematurely destroys the belt usually splitting up the middle.

The three pulley type is not so secure on belts and does very good work, where the angle of troughing is not over 20 degrees but it has the same tendency to split the belt on the edges of the troughing rollers.

The four pulley type does not support the load horizontally in the center of the belt and owing to its "V" shape the belt is soon creased at the center. This is a result of the pressure due to the load forcing the belt to assume a "V" shape as it conforms to the roller. This crease soon becomes a split and the belt fails prematurely.

The three pulley offset type is made up of two troughing rollers and a horizontal roller made up of several small pulleys set screwed to the shaft which is essentially the same as a single pulley. The troughing rollers are offset or set out of line with the central pulley thus the full force of the load of the belt is received by a horizontal pulley and if it overlaps the edges of the troughing rollers there is no danger of the belt splitting. This is the ideal type of troughing roller.

LIFE OF CONVEYOR BELTS

The life of conveyor belts depends upon many circumstances and conditions, the chief of which is the abrasion occurring at the feed. The method of feed should be the first thing to be considered in conveyor installation. It is important that when the material is fed on to the belt that it is traveling in the same direction and at the same velocity as the belt. The feed chutes in most cases are steeper than necessary. They have been designed in this way so that they will not clog. These chutes should be as nearly horizontal as possible and not inclined over 45 degrees at the most. When the material handled is both coarse and fine it will be found to be good practice to feed over bars or screens for a short distance which allows the fine material to form a bed and protects the belt from impact with coarser materials. Care should be taken to never feed the material directly over the roller as it wears the belt excessively and does not allow the belt to take advantage of its elasticity.

In making a comparison of the relative life of 2 belts, say one 100 ft. centers and the other 200 ft. centers but alike in width and ply and both running at the same speed and handling the same quantity of material, the long belt will outwear the short belt. This is because each portion of the long belt comes under the feed chute less often than in the case of the shorter belt. Then if we consider only the abrasive action of the material falling on the belt then the belt 200 ft. long should last twice as long as that which is 100 ft. in length. However, both belts are subjected to wear from the mechanical equipment, therefore while the long

belt will wear longer than the short belt it does not wear in proportion to the length of the belt.

Considering this then it would seem good engineering practice to operate the long belts at a very low angle of troughing while with the shorter belts they should be troughed up and fed to their full capacity in which case we would only look for a short life.

BELT ELEVATORS

Belt elevators are used for handling materials in bulk and are divided into two different classes, the centrifugal and continuous elevators. Centrifugal elevators have the rising side of the belt running vertically. The buckets are spaced at equal intervals along the belt. The material is fed to the boot of the elevator which surrounds the tail pulley from which each bucket picks its own load. This type of elevator is used for handling small fine materials that are easily picked up.

Continuous elevators are inclined at an angle of about 65 degrees. The rising side is supported by rollers that are spaced 8 or 10 feet apart while the return side hangs free.

Buckets are spaced as close together as possible which permits of high capacity at low speeds. The material in this case is not fed to the boot but is delivered directly into the buckets. The material is not thrown out of the buckets by centrifugal force but forced out by gravity.

The belt elevators have many advantages over chain elevators such as their ability to slip under excessive loads and less danger at the boot from clogging thru the material jamming. Belts stretch equally while with chain one side is liable to stretch more than the other, throwing the buckets out of alignment. Belts show signs of excessive wear long before they give out, whereas the chain does not and without warning often breaks dropping everything to the bottom. Chain elevators must be kept within definite bounds of speed hence they are limited in their capacity while belt elevators can be run at very high speeds.

Probably one of the most important features of the belt elevator and the one thing that gives the most trouble is application of buckets. In the case of centrifugal buckets the holes are very few and are all in one row. These holes are at the top of the bucket and for this reason very little trouble is experienced with buckets of this type of elevator. However, in the continuous elevator the bolt holes are universally placed in two rows and staggered. These two rows are in the center of the bucket and not at the top as in the case of the centrifugal elevators.

Much trouble is met with from the bolts. They are usually too long for the belt thickness and protrude a long way into the bucket. They are struck by the material and broken, causing the bucket to become loose. It will be found to be good practice to cut all ends of the bolts after the nut has been pulled up tight. Bolt holes that have been made with the belt punch are often over size which allows a lot of play. Gradually these holes become larger, eventually breaking and allowing the bolt to pull right thru. This is the result of many buckets coming off. It is very important to not make the bucket holes any larger than the bolt itself. They should be a very tight fit. In handling loose materials such as in grain elevators the buckets on centrifugal elevators are often staggered. They have the advantage of taking up materials from the boot with less shock than buckets put on in the ordinary manner. They are advantageous on wide belts where if one wide bucket was used difficulty would be encountered when passing over the crown of the pulleys.

It is a good practice to place a pad between the bucket and the belt and which extends above the top of the bucket. In some cases the buckets are fastened to this pad instead of to the belt. In case of clogging at the boot the pad will pull off without destroying the belt. As it extends above

the bucket it protects the belt from abrasive wear of the material as the buckets pick their loads from the boot. There are several variations of this idea which are all suitable for the several conditions met with.

It is surprising to go around brick plants and see the number of installations of elevators where an iron boot is being used. In most cases this is not at all necessary. Clay will form its own boot.

Probably one of the most difficult materials to convey is ground clay as it sticks to the belt pulleys and machinery causing the belts to run off the pulleys. In such cases the troughing rollers and carrying rollers can be done away with and the belt can be carried over plain steel sheets which soon become highly polished. Under these conditions there is no chance of anything becoming clogged and as a result all trouble is done away with.

* * *

Too Much Government in Business; Not Enough Business in the Government

New York "Times," May 1, says: "Twenty bankers and economists, speaking yesterday at sessions of Academy of Political Science in New York on causes and remedies for inflation and high prices, agreed that the Government should at once curtail its expenses and that the people should attempt in every way to increase production and to check waste of all kinds. One of the remedies approved by many of the speakers was that the people should hold their Liberty Bonds and not use them as legal tender and that Congress should take some step immediately to prevent decline in market value of those securities. Relaxation of Government interference with business and industries, such as the railroads, immediate steps toward paying off war debts, and cessation of arbitrary attempts to name interest rates for capital and wages for labor also were mentioned as remedies.

R. C. Leffingwell, assistant secretary of the treasury, discussed the entire problem of war financing, and laid out a definite program of remedies for inflation and high prices. The gist of his remedies was that American people should immediately turn to work of peace, work out war debts at once, spend money only on peace-time basis.

Paul M. Warburg pleaded for observance of sound banking principles in his view of currency and price inflation, and said that the condition of other countries could not be compared to that of this country."

Senator Edge said in his address: "There is too much Government in business, and not enough business in the Government. Uncle Sam must be pried out of the shipping business and the real estate business, and the wholesale and retail clothing and grocery and other trades which he has invaded. And beyond caring for its immediate, domestic requirements, United States must open and cultivate world-wide markets for its goods."

* * *

Import Fire Brick from Great Britain

It is not often that brick is imported from Great Britain or other foreign countries thru the port of San Francisco, Cal. Recently, however, it was announced that 50,000 fire brick weighing 145 tons had been brought here from Glasgow thru the importing house Balfour, Guthrie & Co. While the job for which these brick were imported is not stated it is understood that they are for some special work for which they were regarded more suitable than any of the fire brick made on the Coast.

* * *

"Any bit of information, given in response to a request, merits a 'thank you.'"



SELLING OUR COMPETITOR'S PRODUCT

A Short, To-the-Point Talk on Selling Brick With An Illustrative Story

By Robert C. Mitchell

Manager Omaha District, Reliance Brick Co.

I HAVE absolutely no regard for the "penny wise and pound foolish" salesman—the fellow who can only see the one possible order under consideration, and who overlooks the bigger things ahead; the salesman who spends more than half of his time running down a competitive article, forty per cent. talking about himself and ten per cent. telling the merits of his own product. It is a wise salesman who realizes there might be other goods on the market equally as good as his own. It is a still wiser salesman who also knows he hasn't a monopoly on the world's output of grey matter. If he does he will work all the harder in competition and is not quite so likely to get caught napping.

During an experience of some fifteen years it has not been uncommon to suddenly find the little "greenhorn" in the business—the unassuming youngster—put it "over" the "old timers" who took too much for granted. I know a face brick salesman—probably one of the most successful—if not the most successful—in the country, who has never been known to utter an unkind word about a competitive brick. On the contrary, when confronted with facts by the architect, or buyer, he promptly admits the truth and agrees the other fellow has the better product. What is the logical result?

After years of straight-forward dealings of this nature every architect and contractor has absolute confidence in him and his wares. The chances are nine to one he will be favored—even to the extent of the architect switching to some other brick so as to have the order looked after by a man on whom he can absolutely depend for a delivery as per sample and promises. This chap has been selling for twenty years and his sales are only limited by the production he is able to secure. Many years ago I realized the value of cooperation among competitors, and the wisdom of boosting the "other fellow's" product. I was with an enamel brick manufacturer, walking down the street of a large city. He was naturally pointing out various brick jobs to me when suddenly he noticed near the top of an eighteen story building about one hundred enamel brick had become spoiled, due to crazing. Without a moment's hesitation he called on the owner of the structure and asked permission to replace the brick free of charge. Imagine my surprise upon learning the brick had been sold by a competitor who no longer maintained an office in this particular city. My friend reasoned that the discolored brick were a black eye for enamel brick in general. Consequently he



prevented an aversion to the use of enamel brick by removing the inferior product which, in those days, was never meant to withstand the rigorous climate in which it was used. And in securing permission from the owner he was careful to present a plausible reason for the defect, without resorting

to "knocking." The owner of this building became one of my friend's best customers. In short, when we boost our competitor's product we are simply feathering our own nest and creating a bigger demand for face brick in general. So let our motto be, "All for one, and one for all."



NOTES *from* the NATION'S CAPITOL

CONGRESS is arranging to take up several matters of primary importance to those in the brick and clay industry, and it is to be hoped that some real accomplishments will come from the expected legislation.

First and foremost is the matter of car shortage. Legislation is now under way for relief of the existing car shortage, providing means for assisting railroads in the financing of new requirements. A series of hearings are being held and real action is anticipated at an early date, or before adjournment is taken for the political conventions. Officials of the railroads estimated that the requirements total 100,000 freight and 4,000 passenger cars, with 2,000 locomotives. The approximate cost is estimated at \$610,000,000. It is being urged that Congress appropriate a fund of about \$500,000,000 from which loans can be made, while a further suggestion covers the devoting of about \$125,000,000 of the fund of \$3,000,000 that the Interstate Commerce Commission has at command for making loans to the railroads.



A bill was introduced in the House on April 28 by Representative Tinch, Kansas, covering the imposing of a tax of 50 per cent. on the war profits of cost-plus Government contractors, and a tax of 80 per cent. on the profits of all Government contracts made with members of the Council of National Defense, and others.



Senator Knox, Pennsylvania, has introduced an amendment to the present tariff bill, providing heavy duties on imported porcelain, optical glass and laboratory glassware.



A measure introduced by Senator Frelinghuysen, New Jersey, providing for seasonal rates on coal is receiving favorable consideration in various interested channels. The interstate Commerce Commission has endorsed the measure unanimously. The principle involved is that of reduced rates in summer to stimulate production and shipment of coal in the slack season, and is held to be sound by the commission.



In a hearing before the Senate Committee investigating coal conditions, Commissioner Clark, Interstate Commerce Commission, expresses the opinion that even tho the number of cars for coal transportation would be increased this year, there is hardly any possibility of making up in the next two years the car shortage which developed under the Government operation of the railroads.



The Interstate Commerce Commission, Washington, is being brought up to close to its full membership of nine, by the appointment of two new members by President Wilson. The men selected will make a total of eight members at the present time. They are: Henry Jones Ford, professor of politics at Princeton University, Princeton, N. J., and James Duncan, Quincy, Mass., a former vice-president of the American Federation of Labor. The first noted will succeed Commissioner James S. Harlan, whose term expired over a year

ago, while Mr. Duncan will take one of the two new positions created by the enlargement of the membership under the Transportation Act. To fill the last vacancy, the president nominated Mark W. Potter on May 6, a well-known lawyer and railway official. The various appointments will be considered by the Senate at an early date.



Philip B. Kennedy, director of the Bureau of Foreign and Domestic Commerce, has tendered his resignation, to become effective July 1. He will become vice-president and manager of the First Federal Foreign Banking Corporation. This company, incidentally, is the first to be formed under the recent Edge law, which authorizes the organization of corporations from groups of banking institutions for the purpose of handling foreign loans.



Will This Help the Transportation Problem?

A ray of hope for some relief in the railroad transportation problems presented itself recently in the form of a request for a loan by a committee of railroad executives. This request followed a general survey of the requirements of all the railroads in the country which shows the first authentic data on the needs of equipment besides emphasizing the dilapidated condition of the nation's transportation system.

Perhaps the most significant feature of this request is the fact that it is the first earnest attempt to get busy and do something for the railroads since the government had taken over its operation. The committee of railroad executives asked Congress for a loan of \$500,000,000, which immediately followed an appeal to the Interstate Commerce Commission for freight rate increases aggregating \$1,017,000,000 a year.

An immediate loan of \$125,000,000 is desired from the \$300,000,000 revolving fund provided for in the Esch-Cummings law. Later a sum of \$500,000,000 is wanted. This amount of money is required to purchase the following: 100,000 freight cars—\$370,000,000, 2,000 locomotives—\$130,000,000, 3,000 passenger cars—\$90,000,000, 1,000—\$20,000,000, making a total of \$610,000,000. But even with this outlay, it would not be sufficient to take care of the necessary replacements as well as the shortages.

According to a survey made of the requirements of all the roads, it is shown that fully 226,000 new freight cars, 9,500 passenger cars, and 3,000 locomotives, costing \$1,600,000,000, are needed. However, this is far more equipment than could be produced next year, and orders placed since January 1, for 27,776 freight cars and 518 locomotives will more than absorb the amount available in the revolving fund.

With money costing so high, and the slim possibility of disposing of a sufficient amount of certificates thru bankers, the railroad executives felt it necessary to ask the government for the use of its credit. However, Senator Cummins, chairman of the Senate Interstate Commerce Committee indicated that Congress will not add \$500,000,000 to the railroad revolving fund, following a hearing by the committee at which New York investment bankers presented their views of the outlook for financing railroad equipment and other needs.

SHORT CUT METHODS *of* CHECKING COAL DELIVERIES

A Brief Discussion of Sampling and Analyzing Coal According to Well Standardized Methods and a Way to Check Up the Quality of Your Coal Deliveries

THE SUBJECT OF FUEL ANALYSES is an old one, therefore, I will not go into great detail in describing methods which are well known to most of you. It will be more profitable to discuss briefly the methods of sampling and analyses which are now well standardized, and then take up more specifically recent improvements and amplifications and a short cut method of checking up the quality of coal deliveries by simple analytical tests and references to the published bulletins on coal analyses of the United States Bureau of Mines and various State Geological Surveys.

SAMPLING COAL

By far the most important operation in testing coals is the collection and preparation of a representative sample.

The selection of a bucket-full of coal from the top of a carload is worse than useless. Such a sample could not represent the average of the carload and in all probability would show a much better quality of coal than the average of the lot. This is due to the tendency of the heavier particles of slate and pyrite to settle to the bottom of the car. Coal as delivered to the consumer consists of a mixture of coal with more or less (in recent years mostly more) extraneous impurities such as bone coal, slate, and pyrite, or sulphur as it is commonly called. The original sample taken must be large enough so that the chance inclusion of slightly more or less impurities will not affect the composition of the final sample. In fact, there is a mathematically correct method of determining from the size of the largest free impurities in the coal just how large a gross sample must be taken to avoid errors in sampling.

Most people make the mistake of assuming that the size of the sample to be taken depends primarily on the amount of coal to be sampled. This assumption is wrong. The principal factor to be considered is the size of the largest impurities. For example, in taking a 100 lb. sample of a large lump coal containing large pieces of slate it is an easy matter to include 10 lbs. too much or too little slate. This would produce an error of approximately 8 per cent. in the ash and B. t. u. value of the sample. On the other hand, if a 1,000 lb. sample had been taken the error would not have exceeded 0.8 per cent. For this reason in the case of coal containing impurities over one inch in size, the gross sample should consist of 1,000 lbs. taken in uniform increments of 10 to 30 lbs. from various parts of the lot.

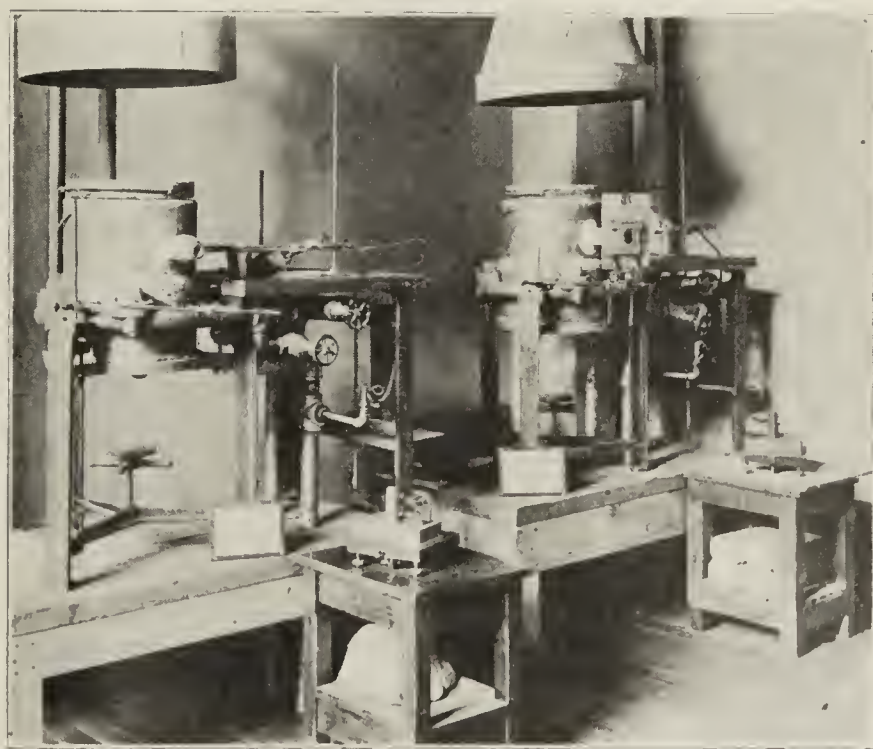
In mixing and reducing this large sample by the quartering process, the coal should be further crushed before each reduction in size until finally 5 to 10 lbs. of a sample crushed to 4 mesh size is placed in a moisture tight container and transmitted to the chemist for analysis. Full details for sampling are given in the 1918 Book of Standards of the American Society for Testing Materials, pages 673-678, and also in the Bureau of Mines Bulletin 116, Methods of Sampling Delivered Coal, by G. S. Pope.

Coal analysis is to a large extent empirical and therefore standard methods must be followed strictly to obtain comparable results. The need of standardization led to the formation of a joint committee of the American Chemical Society and the American Society for Testing Materials, who formulated a set of standard methods which have been adopted by both societies and is published in the 1918 Book of Standards of the American Society for Testing Materials, on pages 679-720. If all chemists follow these methods there will be no difficulty in checking results. These standard methods are subdivided into (1) Preparation of Laboratory Samples, (2) Proximate Analysis and Sulphur Determination, (3) Ultimate Analysis, and (4) Determination of Heating Value.

LABORATORY SAMPLING

The proper preparation of a representative laboratory sample is just as important as taking the original gross sample. The same principles of thoro mixing, pulverizing and reduction by splitting or quartering apply and in addition the chemist must be on his guard to avoid loss or gain of moisture. Pulverized coal loses moisture very rapidly when exposed to the air on a dry day, and likewise a dry sample takes up moisture just as readily on a humid day.

The proximate analysis of coal consists of the determination of moisture, ash, volatile matter and fixed carbon. The sum of these four determinations is 100 per cent. The per cent. moisture in the coal is the loss in weight sustained by



Apparatus Used by the United States Bureau of Mines in Testing the Fusibility of Coal Ash.

one gram of powdered sample when heated for one hour in an atmosphere of dry circulating air.

The ash is the incombustible residue left on igniting the

A paper presented at the December meeting of the New Jersey Clay Workers' Association, by A. C. Fieldner, supervising chemist, Pittsburgh Experiment Station, U. S. Bureau of Mines.

sample from the moisture determination in a muffle at a bright red heat until there is no further change in weight.

The volatile matter is the gas resulting from the destructive distillation of a one gram sample in a small covered platinum crucible at a temperature of 950 deg. C.

Since the amount of volatile matter found varies several per cent. with the conditions of heating the coal, it is absolutely necessary to make this determination exactly as specified in the standard method.

The fixed carbon is the weight of coke or carbonized residue left in the crucible from the volatile matter determination after deducting the ash.

Sulphur is determined in a separate sample. In the proximate analysis, part of the sulphur goes off in the gas with the volatile matter and part remains behind in the coke.

ULTIMATE ANALYSIS

In the ultimate analysis the composition of coal is expressed in percentages of ash, sulphur, carbon, hydrogen, nitrogen and oxygen.

Ultimate analyses require a considerable degree of analytical skill on the part of the chemist, and are seldom made in the commercial laboratory. In fact there is but little need for them in the industrial valuation of a fuel.

DETERMINATION OF HEATING VALUE

Ordinarily, the commercial value of a coal, other characteristics being satisfactory, is proportional to its heating value. This value is expressed in terms of British Thermal Units, B. t. u. A B. t. u. is the quantity of heat required to raise the temperature of 1 lb. of water 1 deg. Fahr. at 60 deg. Fahr.

The most accurate and commonly accepted method of determining the total heating value is by direct combustion with compressed oxygen in a bomb calorimeter. The instrument should be carefully standardized by burning substances of known heating value, such as the standard samples of cane sugar, naphthalene and benzoic acid that are furnished by the Bureau of Standards. The standardization should be conducted under exactly the same conditions and with the same thermometer that is used in the tests. The use of calibrated thermometers is essential. In carefully conducted calorimetric work the probable error should not exceed 0.3 per cent., which corresponds to about 50 B. t. u. in a high grade coal. This degree of accuracy is higher than can be obtained in the usual methods of sampling, which often times increase the error to 100 B. t. u.

FUSIBILITY OF ASH

In recent years some consumers of coal have sought to avoid excessive clinker trouble in coal by specifying that the ash should not soften below a certain temperature. There is yet considerable difference of opinion as to how closely clinker troubles follow laboratory fusibility tests. Under some conditions of operation it may be of real importance, in other cases it may be disregarded. There is undoubtedly a fair relation between clinker formation and degree of fusibility within moderate limits.

The Bureau of Mines has investigated methods of determining fusibility and the effect of oxidizing and reducing atmospheres.

All coal ash contains iron oxide and in greatly varying amounts. The oxidizing or reducing nature of the atmosphere in the test furnace determines the behavior of the iron oxide in the slag formation. Examination of clinkers from boiler furnaces has shown that the iron is largely in the ferrous form. Therefore, the test furnace atmosphere should also be so governed as to form ferrous iron slags. This can be done by making the fusion tests in a gas furnace operated with a maximum of excess gas and so arranged that the combustion gases come in contact with the test cones.

The furnace used in the Bureau of Mines Laboratory is a

slightly modified form of the No. 3 Melter's furnace of the American Gas Furnace Co. The furnace is operated with an excess of gas burning at the vent in order to maintain a reducing temperature in the combustion chamber. Under these conditions the iron in the ash is reduced primarily to the ferrous state, which condition gives the lowest softening point, and, therefore, the lowest temperature at which clinkering may result.

In making a test, the finely ground and ignited coal ash is molded with the aid of a dextrin solution binder into small triangular pyramids $\frac{3}{4}$ in. high by $\frac{1}{2}$ in. at the base. The dried cones are mounted in a vertical position on a refractory base and placed in the crucible of the Melter's furnace. The furnace is heated at a rate of not less than 5 or more than 10 deg. C. per minute until the last cone has softened. The softening temperature is taken at the point where the cone has melted down to a spherical lump. With coal ashes this point was found more reproduceable than the point where the apex of an inclined cone touches the base as in the usual Seger cone practice. Cones of coal ash do not bend in the nice even manner of Seger cones. Many of them shrink and warp badly. By using a cone of wider base and mounted vertically, these difficulties were overcome.

SURVEY OF FUSIBILITY OF ASH OF AMERICAN COALS

During the last two years the Bureau of Mines has conducted a survey of the fusibility of ash of various American coals. It was found that the softening temperature of the ash of the different coal beds of the country ranges from 1,900 deg. Fahr. to 3,100 deg. Fahr. Certain beds in West Virginia, Maryland and Eastern Kentucky, notably the Eagle, Winifrede, Coalburg, No. 1 and No. 2 gas beds of the Kanawha group; the Beckley and Welch beds of the New River Field; most of the beds of the Georges Creek Field in Alleghany and Garrett Counties, Maryland; and the Fire Clay, Lothair and Harlan beds of Eastern Kentucky, have a very refractory ash with a softening temperature of 2,600 deg. to 3,200 deg. Fahr.

On the other hand almost all of the bituminous coals of Pennsylvania, Alabama and Tennessee; the New River and Pocahontas coals of West Virginia; and most of the Ohio and Eastern Kentucky coals are characterized by ash that has a medium fusibility, i. e., between 2,200 and 2,600 deg. Fahr. But the most fusible ashes of all are from the coals of the Interior Field, comprising Indiana, Illinois, Western Kentucky and Missouri. Most of these coals have an ash fusibility of less than 2,100 deg. Fahr. In the following table is given the order of fusibility of the principal Eastern and Interior coal beds:

TABLE 1

Order of Fusibility of Ash of American Coals.

- Class 1—Refractory ashes, above 2,600 deg. Fahr.
- West Virginia:
- Kanawha Coals—Coalburg, Winifrede, No. 2 Gas, Eagle and No. 1 Gas beds.
 - New River Coals—Beckley and Welsh beds.
- Pennsylvania:
- Huntington County—Fulton bed and most of the anthracite coal.
- Maryland:
- Georges Creek Field—Alleghany and Garrett Counties: Bluebaugh, Little Pittsburgh, Quakertown, Upper Kittanning, and Upper Sewickley or Tysen beds.
- Eastern Kentucky:
- Bell, Knox, Perry and Harlan Counties—Fire Clay (Dean or No. 4), Lothair and Harlan beds.
- Alabama:
- Tuscaloosa, Walker and Jefferson Counties—Jagger and Mary Lee beds.

CLASS NO. 2

Medium Fusibility, 2,200-2,600 deg. Fahr.

Pennsylvania:

The great majority of bituminous coals of Pennsylvania are in Class 2.

West Virginia:

Kanawha Group—Cedar Grove bed.

New River Group—Sewell and Fire Creek beds.

Pocahontas Group—Pocahontas No. 3 and No. 4 beds.

Ohio:

Lower and Upper Freeport, Middle Kittanning and Meigs Creek beds.

Eastern Kentucky:

Elkhorn, Hazard, Hickory, Jellico, Kellioka, Lower Hignite and Mason beds.

Maryland:

Lower Kittanning and Upper Freeport beds.

Virginia:

Pocahontas No. 3, Upper and Lower Banner beds.

Alabama and Tennessee:

Most of the coals are in class 2.

CLASS NO. 3

Easily Fusible, Below 2,200 deg. Fahr.

West Virginia:

The great part of the Pittsburgh, Sewickley and Freeport beds.

Ohio:

Lower Kittanning and Mahoning beds.

Eastern Kentucky:

Bell, Johnson and Laurel Counties—Miller Creek and Straight Creek beds.

Virginia:

Russell and Dickinson Counties—Kennedy bed.

Tennessee:

Campbell, Morgan, Fentress and Overton Counties—Blue Gem and Bon Air No. 2 beds.

Practically all of the coal from the interior field comprising Indiana, Illinois, Western Kentucky, Missouri and Kansas belong to Class 3, much of it being under 2,000 deg. F.

CALCULATION OF HEATING VALUE AND ULTIMATE ANALYSIS FROM MOISTURE AND ASH DETERMINATION

There is a very simple method whereby the coal consumer can make a fairly close estimate of the heating value and ultimate analysis of his delivered coal by merely making a moisture and ash determination and calculating over some

previous analysis made on coal from the same bed and region. This can be done because the composition and heating value of the coal substance, or combustible free from moisture and ash, from a given mine, or adjacent mine, in the same bed is fairly constant. Hence the difference in heating value of the different lots of coal is due principally to the variation in moisture and ash.

The Bureau of Mines has published analyses of coal from almost all parts of the United States in Bulletins 11, 22, 41, 85, 119 and 123. In these bulletins, analyses are stated in these conditions: as received, moisture free, and moisture and ash-free.

The works chemist or fuel engineer can use these published analyses to calculate the heating value of the coal delivered to him in the manner just described, provided he knows the source of the coal, i. e., the name of the coal bed and the location of the mine. The method is best illustrated by the following example:

Suppose you have a delivery of Pittsburgh bed coal that was mined near Elizabeth in Allegheny County, Pa., and that you have determined the moisture and ash as 3 per cent. moisture, and 10 per cent. ash. You then look thru the government bulletins on coal analyses and find on page 71, Bulletin 123, an analysis of a coal sample from the Pittsburgh bed, which gives 15,100 B. t. u. as the moisture and ash free calorific value. Multiply this value by 100 minus the sum of the moisture and ash gives 13,137, as

$$15,100 \times \frac{100 - (3 + 10)}{100} = 15,100 \times 0.87 = 13,137 \text{ B. t. u.,}$$

the heating value of the delivered coal.

The heating value computed in this manner is usually within 1.5 per cent. of the true value as determined in a calorimeter.

The ultimate analysis can be computed in the same way.

This method depends on knowing the source of the coal and, of course, the consumer does not always know this. In such cases the method fails.

SUMMARY

In presenting this brief survey of coal sampling and analysis, it is desired to emphasize especially the necessity of careful and adequate sampling as described by the American Society for Testing Materials. Likewise the methods of analysis should be those recommended by the society.

Fusion tests should follow the tentative method recommended in the 1919 Proceedings of the A. S. T. M., as the softening temperature is greatly affected by the test procedure used.

CREDIT *in* PAYMENT *of* FREIGHT CHARGES

MANUFACTURING and shipping interests thruout the country were in strong representation at a hearing before the Interstate Commerce Commission, Washington, D. C., on April 20, urging that the railroads be given authority to extend credit for one week to responsible shippers instead of a continuance of the present 48 and 96-hour limit for the payment of freight. The railroads, on the other hand, desire to maintain the present plan, and so expressed themselves at the hearing.

The Manufacturers' Council of New Jersey, headed by Warren C. King as president, and composed of a large number of ceramic interests thruout the state, has been active in this matter in behalf of its members. The organization was represented at the hearing by Mr. King, and expresses itself emphatically in regard to the hardship now prevalent upon manufacturers thru the existing plan of operation.

In this, it is pointed out that the 48 and 96-hour periods

which have been in effect for allowing payment of freight have proved impediments both to the receivers of freight and the railroads. In the first place, deliveries of freight have been withheld by the railroads because of the failure by receivers to pay freight bills within the period; again, material has been placed in storage because receivers have been unable to meet conditions on payment of freight, owing to the absence of a company official authorized to sign checks, while on the other hand, freight bills have been paid by manufacturers for freight not shipped to nor intended for them. The plan, as operative, adds greatly to the detail of office work both for railroads and manufacturers, and tends to bring about greater congestion to already overtaxed facilities in railroad freight yards.

SEVEN GOOD REASONS FOR ASKING CREDIT

Asking the commission to issue rules and regulations as

may be necessary to permit the railroads to extend the time of payment of freight charges either weekly, semi-monthly or monthly, the Council holds that it will: (1) Insure speedy delivery of freight; (2) Enable receivers to verify deliveries; (3) Allow detection of errors in consignment; (4) Discover the application of erroneous rates; (5) Permit detection of errors in the extension of freight bills on the part of the railroads; (6) Permit the payment of freight by shippers of club cars containing a composition of orders for re-shipment from a fixed consignment point; and (7) Eliminate unnecessary labor of drawing checks and vouchers in payment of small items, which, in the aggregate, do not represent any considerable sum but entail a vast amount of labor in constant drawing of checks and vouchers.

In order that the proposed change will not bring any hardship on the railroad it is proposed that the matter be left to the discretion of the management of the road in granting of credit to shippers on the line; that such management be authorized to extend a credit without the trouble and inconvenience of filing a bond on the part of responsible manufacturers for a period of one week; and further, that where the receivers prefer and desire an extension of credit for semi-monthly or monthly payment of freight, the individual

firm or corporation be required to deposit with the railroads a sum in cash equal to its average semi-monthly or monthly freight bills for the previous year.

The difficulties of various members of the Council are similar to those experienced by concerns in different industries thruout the country. Operations of handling, checking and receiving shipments require a certain amount of time in any large organization, and the result is that there is frequent inability to secure delivery of freight because of the fact that checks have not reached the freight office of the railroad within the limit of 48 or 96 hours.

The concerted action at this time is due to the proposed operative feature of the Interstate Commerce Act, Section 3, as amended by Section 405 of the Transportation Act of 1920, providing that "on and after July 1, 1920, no carrier by railroad subject to the provisions of the Act shall deliver or relinquish possession at destination of any freight transported by it until all tariff rates and charges thereon have been paid except under such rules and regulations as the Commission may from time to time prescribe to assure prompt payment of all such rates and charges and to prevent unjust discrimination."



MARKED CHANGE *for* BETTER *in* N. Y. *in* BUILDING MATERIAL *and* CONSTRUCTION MARKETS DUE *within* NEXT FOUR WEEKS

BUILDING MATERIAL price advances have probably never been as general as those that appeared in the New York current trade list when the market closed on May 8, says the Dow Daily Building Reports of May 10.

Items affected included Portland cement, which moved from \$3.80 to \$4.50 a barrel, delivered, with 25 cents, instead of 15 cents bag rebates; plate glass; certain items in iron and structural steel; practically all the list of lime items, finishing plaster, plaster blocks, which show a heavy advance over former prices; and some lumber items. Hudson River common brick, which is temporarily in better supply here than at any time in half a year, remains at \$25 a thousand, wholesale, dock, New York, with the usual additional charges for handling and hauling and 15 per cent. The stocks are large because manufacturers sent in barges that their scanty supply of brick yard help had loaded in recent rainy weather and it has lain here in the city without a market except for speculative purposes, because there has been no cement with which to lay them. In this department the brick barge captains are now talking of striking for an advance in wages. There were rumors that ultimatums would be forthcoming some time this week (week beginning May 10).

In view of the already heavy charges for holding brick here and the extreme shortage of help on brick yards this year, once these barges unload and are returned to the up-river plants, it is extremely unlikely that they can be promptly reloaded no matter what the current market demand may be because manufacturers are already using what men they have available, to prepare the yards for brick making.

REFUSE ORDERS FROM NEW ACCOUNTS

The best possible analysis of the current building market is obtained from the instructions going out to the trade from various associations and from other factors in the building industry. The current trade letter from the Stand-

ard Paint Co., as a fair example of the general tenor of instructions to salesmen, reads, in part, as follows: "We have continually urged our customers not to obligate themselves to fill any orders unless they either had the goods on hand or knew what their orders, in turn, had been accepted. We have consistently refused to accept orders from new accounts."

The National Association of Building Trades Employers communicate to their members this clause to go on all lump-sum contracts: "The above proposition is based upon the cost of labor and materials as of this date. If increase or decrease in cost of labor or materials occurs on this work, the owner will be charged or credited for such increase over or under prices which existed at date of contract." The recommendation also includes the provision that any work done at any other time than the regular working day of eight hours, that the extra expense incurred by the contractor doing such work be added to the original sum stipulated in the contract. Over-time work is condemned as detrimental to the best interests of the building industry, that all contractors combine to encourage young men to enter the building trades to make up for the present dearth of labor and further condemns the use of the word "minimum" in connection with the agreed wage scales in the building trades.

CHANGE FOR BETTER DUE IN NEXT FOUR WEEKS

The next four weeks should show a marked change for the better in the entire building material and construction markets, if present indications count for anything. Within that time the railroads expect to again have the rails cleared of stalled freight. Some roads are becoming cleared now. The latest wage adjustments for the building trades give more solidity to promised peace in the entire local industry than has characterized this market in many years. This is especially assured by the provision that the wage scales may be reopened for adjustment in August, if the cost of

living continues to advance. Tightening of finance and the campaign against high retail prices by big merchants combine to give ground for the expectations that the index figures covering the cost of living have reached their highest point. If the trend is downward it will go a long way toward attracting labor to the building trades with the present wage schedules.

NEW WAGE SCALE ADJUSTMENT

Further adjustments in the new building trades wage scales supplementing the trades announced last week as having received the voluntary \$1 increases, include the cement and concrete masons who will receive \$6.50 a day; portable hoisting engineers who will receive \$52.25 a week; engineers on combination machines \$59.25 a week; engineers on steam rollers and foundation work, \$56; engineers on excavation work, \$48, and engineers on steam shovels and dredges \$250 per month.

The question of demand and supply of building materials, therefore, now appears to be the last item to be met with in the long program of readjustment in the building industry. It is in this department, however, that the greatest problems are found. For example, the plate glass industry turns out approximately 100,000,000 feet of this material in a year. In normal times the building trades take 75,000,000 of it. The remainder is taken up by furniture, show case mirror and automobile requirements. A clear idea is at once obtained regarding the extent of the disruption the automobile trade has made in the building industry when it is stated that the auto trade alone has already contracted for 40,000,000 feet of plate glass and wants more.

The entire local building industry is patiently awaiting the lifting of freight embargoes for the belief is growing that behind that heavy curtain is the promised building movement and another two to four weeks will mark the long expected change.

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Metropolitan Places Own Advertising

Perhaps not all persons interested in paving brick manufacture noticed the advent of the Metropolitan Paving Brick Co., of Canton, Ohio, into the field of advertisers, and even among those who did there are undoubtedly a great number who did not see an interesting piece of "copy" used by that concern in the "Literary Digest," a fac-simile of which we are reproducing on this page.

This "copy" has been carried at different intervals since the first of the year and besides being placed in the "Literary Digest" is also running in "Better Roads and Streets," "Engineering and Contracting," "Highway Engineer and Contractor," "Municipal and County Engineering," "Municipal Journal and Public Works," and in the "American City."

The first outstanding feature in connection with the subject of this item is the fact that a paving brick manufacturing concern is running "copy" of its own on such a large scale as to occupy a quarter of a page space in one of the country's leading popular magazines, for which large expenditures are required. This one insertion alone costs the Metropolitan Paving Brick Co. several hundred dollars. The program which has been mapped out by the above concern covers the current year and they state that if results and conditions warrant it they shall continue next season. The appropriation for this year will run from \$10,000 to \$15,000.

The placing of advertising "copy" in a large national magazine by a private concern is an innovation and as far as our recollection goes, this is the initial adventure on the part of a paving brick concern to appeal to the general public.

The second interesting feature in relation to the advertising "copy" used in the April 17 issue of the "Literary Digest" and which is illustrated herewith, is the nature and contents of the copy itself. An examination of the reproduction of the "ad" referred to in this sketch will reveal the fact that "Metro-

METROPOLITAN
The Largest Makers of Paving Brick in the World

It is all the same to METROPOLITAN. Be the street in Yucatan, as in the first picture, or in Ohio, as in the second—METROPOLITAN Brick Pavements give greatest service per dollar.

And METROPOLITAN, with its seven modern plants, gives every purchaser of its paving brick the service he has a right to expect from such an organization.

Your letter will be welcome and promptly answered.

METROPOLITAN PAVING BRICK CO.
Canton, Ohio

Facsimile of Quarter Page Advertisement of Metropolitan Paving Brick Co. Which Appeared in the "Literary Digest."

politan" brick have been used for streets in Yucatan as well as in this country. Two illustrations accompany the "copy," one of which is a picture of a brick paved street in Yucatan and the other a similarly surfaced street in Ohio. The trade-mark which has accompanied all of the advertising done by the National Paving Brick Manufacturers Association also finds itself incorporated in the above advertisements.

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Little Progress Towards Price Reductions

Report on business conditions in Second Federal Reserve District, from Federal Reserve Agent at New York to Federal Reserve Board April 30, states that a review of the first four months of 1920 indicates very little progress towards a reduction of either commodity prices or credit volume. The best that can be said is that the rate of increase in both has been slowed down. The usual credit liquidation of January and February did not occur this year, and while during February the steadily rising indices of commodity prices halted, or even showed signs of declining, they have resumed their upward course during March and April, accompanied by increasing bank loans, in spite of a decreasing volume both of Government debt and of Government securities owned or carried by the banks. This condition finds its reflection in the Federal Reserve System, the reserves of which were 43.7 per cent. on January 2 and 43 per cent. on April 23. A year ago the reserves were 52.7 per cent.

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The report of the National Industrial Conference Board at Boston states that the average cost of living for American wage earners advanced seven per cent. between November, 1919, and March, 1920.

GRAVITY'S ACTION *on* CLAY DRYING

How Drying Proceeds and An Account of An Interesting Experiment Which Showed How Gravity Is a Factor in the Elimination of Water from Clay Ware

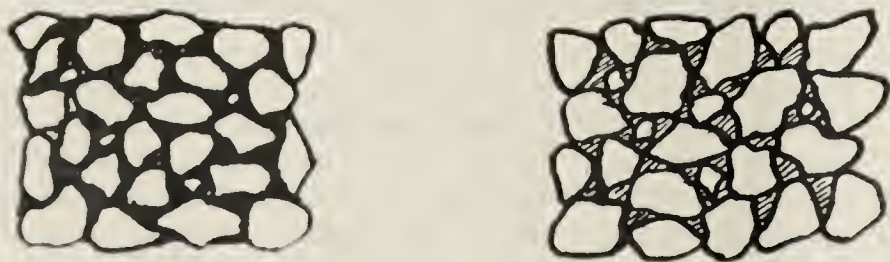
AT THE RECENT ANNUAL MEETING of the Illinois Clay Manufacturers' Association, Dr. E. W. Washburn, head of the Department of Ceramic Engineering, University of Illinois, delivered a talk on a subject which was entitled "Some of the Factors Involved in the Drying of Clay Wares." The salient point about his address was the description of a very interesting experiment he performed sometime ago, the results of which he included in a paper read before the American Ceramic Society at one of its annual meetings. It was a very simple experiment but the results were never heretofore emphasized or realized and it is of interest to all manufacturers of clay ware to know about the phenomena exhibited.

In the first place it should be known that clay is porous and that when wet, these pores are filled with water. The pores form zig zag channels or capillary tubes in all directions thruout the clay mass. Since the water in the interior is enclosed all drying is affected by what happens at the surface of the piece. When there is no evaporation or diminution of water from the surface, there is practically no movement of the water in the pores,—osmotic movement disregarded. However, as soon as there is evaporation or a loss of water from the surface, the water from the interior of the mass moves thru the channels by capillarity and the numerous minute reservoirs which we term pores, are drained.

DRYING SIMILAR TO ACTION IN KEROSENE LAMP

The above process is entirely similar to the action that occurs in the ordinary kerosene lamp. As long as the lamp contains oil it will be drawn up by the wick by capillarity. When the oil is used up the flow ceases altho there may still be some oil clinging to the walls of the lamp. It is in this very same manner that the water in the pores of the clay mass is drained. This is the first stage in drying and the stage in which shrinkage takes place, and if all parts of the clay mass are being drained at the same time, there are no equal strains and the ware does not crack.

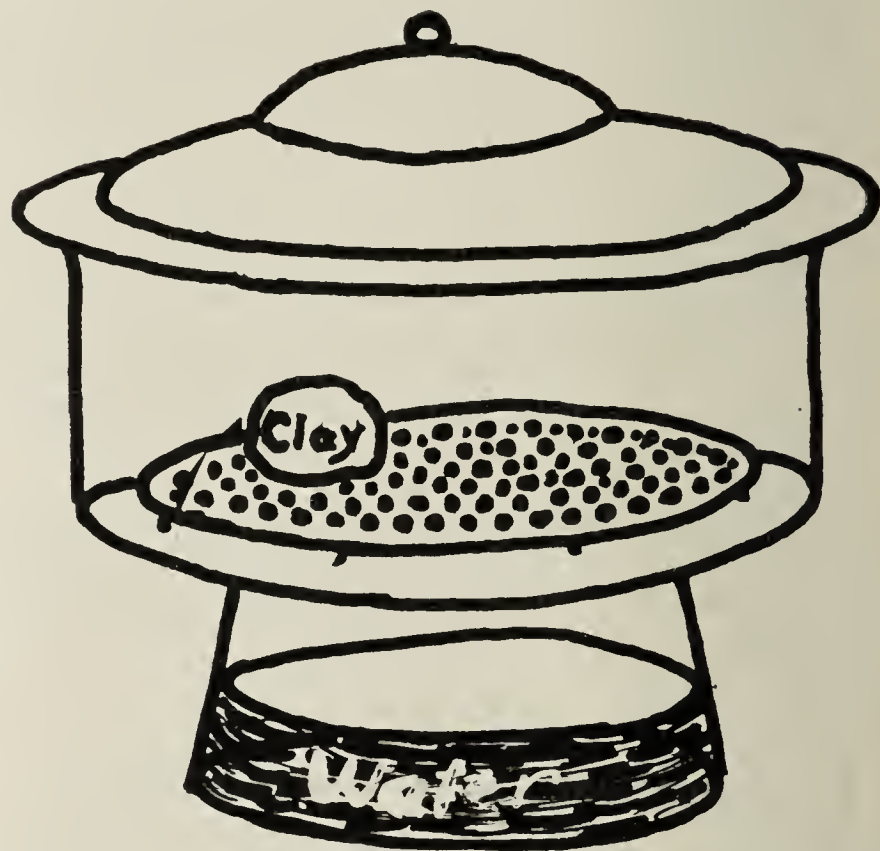
Now, besides the above there is another factor that influences



Two Sketches of a Mass of Clay Greatly Exaggerated in Size. The First Shows Relative Positions of Grains When Clay is Quite Moist and the Second Sketch Shows How the Grains Come in Contact With Each Other When the Water is Driven Out.

drying and which was noticed from the experiments mentioned before. A ball of moist plastic clay about four inches in diameter was placed on the shelf of an ordinary chemist's

desiccator, the lower part of which was filled with water, the idea being to keep the air surrounding the ball of clay moist so that the clay would not dry out on standing



A Chemist's Dessicator Holding Water in the Lower Reservoir and Supporting a Mass of Moist Clay on its Platform.

over night. It happened that the clay was left in the desiccator over a month, and at the end of this time it was found to have dried out so completely that it readily broke into pieces when dropped upon the floor. On examination even the central portions of the ball were found to be hard and dry.

CLAY DRIES DESPITE MOIST ATMOSPHERE

At first examination, this behavior seemed rather astonishing, as the ball of clay was standing in an air-tight vessel only three inches above the surface of the water and the air surrounding the clay should, it would seem, have been almost saturated with moisture. In seeking the explanation for this behavior, it was concluded that the water had been actually drawn out of the clay mass by the attraction of the earth. In other words, the clay must have dried for the same reason that water runs down hill.

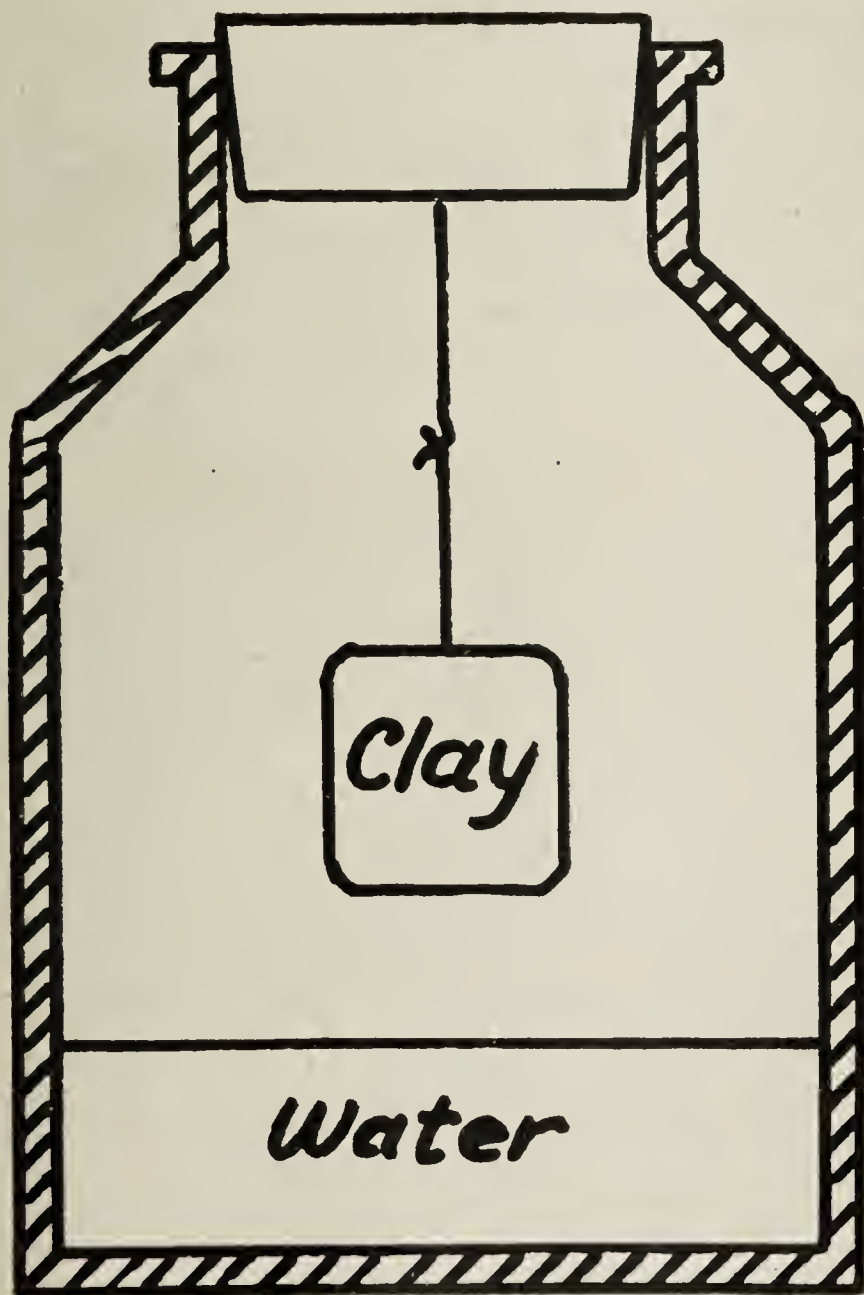
In order to test the conclusion that the force of gravitation was responsible for the drying the experiment was repeated under conditions of more exact control. For this purpose a ten gram mass of moist clay which contained thirty per cent. of water, was suspended by means of a wire from the bottom of the rubber stopper of a bottle containing a small quantity of water, the height of the clay above

the surface of the water being about $2\frac{1}{2}$ inches. The bottle and its contents were then completely immersed in a large body of water so as to insure constant and uniform temperature conditions on all sides of the bottle. From time to time the mass of clay was removed from the bottle and weighed. The experiment was continued for eleven days, during which time the mass of clay continuously lost weight at the rate of about thirty milligrams per day. At the end of the eleventh day the mass of clay had lost a total of 0.304 gram of water. This water must obviously have distilled out of the clay, under the influence of the attraction of the earth, and condensed into the water in the lower part of the bottle.

PLACES CLAY BELOW WATER LEVEL

To make certain that this was the correct explanation, the mass of clay at the end of the eleventh day was lowered so as to be on the same level as the water in the bottom part of the bottle, but without touching this water. The experiment was then continued and the mass of clay was found to steadily increase in weight, showing that water was now distilling from the liquid water in the bottle, and condensing into the mass of clay. The distillation in this case was, of course, due to the fact that, owing to the presence of small quantities of soluble materials in the clay, the vapor pressure of the water in the clay was lower than that of the pure water.

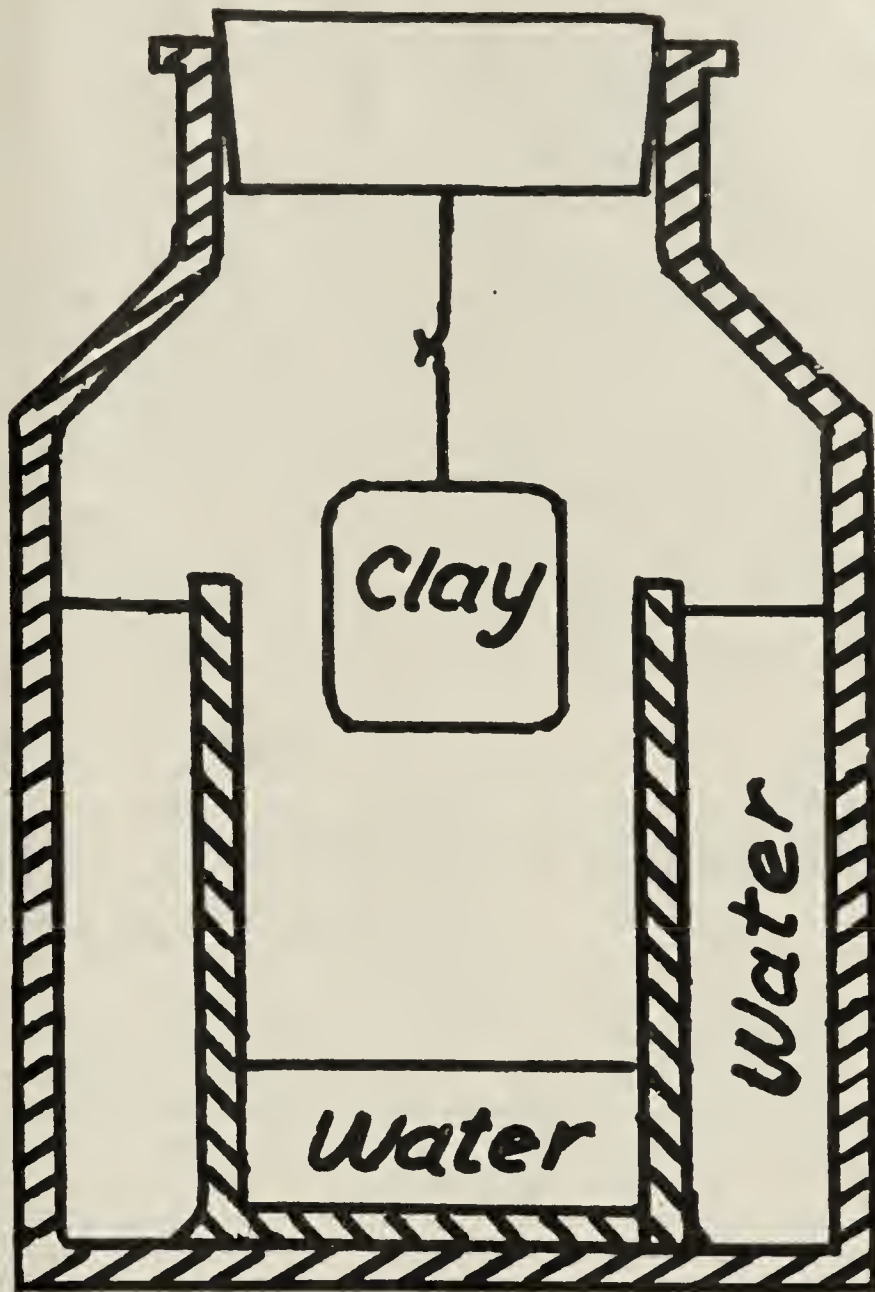
From the experiment and theory connected with it, it was



How Drying Experiment Was Performed With Entire Clay Mass Above Level of Water in the Container.

pointed out that in order to keep a mass of moist clay from drying, by enclosing it in a chamber containing water, the water should not be placed at a lower level than the mass of

clay which is to be kept moist. Moreover, there would appear to be no reason why the force of gravitation should not be made use of in some cases to control the extent and rate of



The Same Experiment Except That the Clay Mass is Held in a Position so That Part of it is Below the Level of the Water in the Container.

drying of ceramic ware, since, at a given temperature, both of these factors are determined by the perpendicular distance between the piece of ware and the bottom of the containing chamber, provided that the air in the chamber is not stirred. Stirring the air would obviously retard the rate of gravity but would, of course, not stop it entirely unless the stirring were 100 per cent. efficient.

RATE OF DRYING VARIES WITH VAPOR PRESSURE

It was also concluded that the rate of gravity drying would increase with the temperature. That is, a mass of moist clay placed in a gravity dryer filled with saturated steam at 100 deg. C. would dry more rapidly than in the same dryer at 0 deg. C., altho at the latter temperature the air in the dryer would contain very little moisture. In other words, the rate of drying in a gravity dryer is determined by the vapor-pressure gradient in the dryer and not by the dryness of the air in the dryer. Indeed, the more moisture the air of such a dryer contains, the more rapid will the drying be, as was seen from the experiment, altho this conclusion at first sight appears paradoxical.

In this connection it was explained that in operating a moist closet for storing clay, the drying action of gravity upon this clay cannot be eliminated by hanging wet cloths along the sides of the closet, providing the action of capillarity is depended upon to keep these cloths wet; that is, provided they are supposed to be kept moist by having the

lower ends dipping into water in the bottom of the closet. It is true that in such a manner the water placed in the lower part of such a closet may be lifted to the same level as the clay, but such water (water held up by capillary force action against gravity) will be under tension and the effect of tension upon a liquid is always to lower its vapor pressure.



Making Long Trip to Increase Membership

Ralph P. Stoddard, secretary-manager of the Common Brick Manufacturers Association of America, is making another extensive trip in behalf of this association. Mr. Stoddard has made several trips in which he covered a great deal of ground in the East and in the South. This time however, he is bound for the West and is going all the way to the Pacific Coast. This trip includes St. Louis, Mo.; Iola, Kans.; San Antonio and El Paso, Tex.; Tucson, Ariz.; Los Angeles, Fresno and San Francisco, Calif.; Portland, Ore.; Seattle and Spokane, Wash.; Salt Lake City, Utah, and Omaha, Neb.

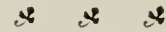
Besides speaking for the Common Brick Manufacturers Asso-

ciation of America, and boosting the advertising campaign which the above association is now carrying on, Mr. Stoddard also intends to advocate the work being done by the National Federation of Construction Industries.



Facing Shortage of Pine Lumber

J. H. Carlyle, a lumberman of Everett, Wash., said in Chicago on April 29: "We are facing a shortage of pine lumber because of three facts: the principal supply of the South is exhausted; much of the northern wood has been destroyed by fire, and the New England States are running short."



"A fine thing to cultivate and tabulate, namely: the number of times you honestly can say 'thank you' from the alarm clock's awakening in the morning until the shades are drawn at night. Then repeat it the next day—the next—and the next. The habit will make you a director in the bank of cheerfulness and 'thank you' will come to you on the rebound, times without number."



CURRENT PRICES *of* COMMON BUILDING BRICK *from* SEVENTY-EIGHT CITIES

INASMUCH AS considerable interest has been manifested recently in common brick prices thruout the country, it has been deemed wise to make a compilation of current quotations for the benefit of our readers. The prices which follow are reported as *delivered on the job*. They are, therefore, in the very nature of the case, higher than the plant price. This should be taken into consideration in examining them.

If for any reason these prices do not seem to be in line

with conditions as they exist in the towns enumerated, and furthermore, if you have any information that would tend to prove these prices to be incorrect the editors of *Brick and Clay Record* will be very glad to hear from you. These are, however, quotations which are being given at the present time by agencies selling brick in the towns mentioned.

The foot notes are explained at the end of the following tabulation:

COMMON BRICK	Per M		
Boston, Mass.	\$29.25	Wilmington, Del.	25.00
Portland, Me.	28.00	Washington, D. C.	24.50
Providence, R. I.	35.00*	Baltimore, Md.	25.00
Hartford, Conn.	30.00*	Norfolk, Va.	23.50
New Haven, Conn.	35.00	Richmond, Va.	25.00
New York City	30.45	Huntington, W. Va.	22.00
Albany, N. Y.	25.00	Fairmont, W. Va.	30.00
Utica, N. Y.	24.00*	Wheeling, W. Va.	30.00
Syracuse, N. Y.	25.00	Atlanta, Ga.	25.00
Oswego, N. Y.	30.00	Miami, Fla.	44.00
Binghamton, N. Y.	28.00	Tampa, Fla.	30.00
Elmira, N. Y.	35.00	Frankfort, Ky.	24.00
Rochester, N. Y.	19.50	Louisville, Ky.	20.00
Buffalo, N. Y.	30.00	Lexington, Ky.	25.25
Jamestown, N. Y.	33.00	Memphis, Tenn.	25.50
Allentown, Pa.	22.00	Nashville, Tenn.	19.50
Philadelphia, Pa.	25.00	Birmingham, Ala.	25.00
Pittsburgh, Pa.	20.00	New Orleans, La.	22.50
Scranton, Pa.	28.00	El Paso, Tex.	21.00
Newark, N. J.	32.00	Houston, Tex.	25.00
Paterson, N. J.	32.00	Dallas, Tex.	30.00
Trenton, N. J.	27.00	Topeka, Kans.	25.00
		Little Rock, Ark.	18.00
		Oklahoma City, Okla.	27.50
		Cincinnati, Ohio	22.00
		Cleveland, Ohio	25.00
		Columbus, Ohio	30.00
		Toledo, Ohio	32.50
		Evansville, Ind.	16.00
		Fort Wayne, Ind.	21.00
		Indianapolis, Ind.	22.00
		South Bend, Ind.	23.00
		Terra Haute, Ind.	19.00
		Bloomington, Ill.	22.00
		Chicago, Ill.	16.00
		Moline, Ill.	24.00
		Green Bay, Wis.	20.00
		Milwaukee, Wis.	20.00
		Minneapolis, Minn.	24.00†
		St. Paul, Minn.	24.00
		Davenport, Iowa	23.50
		Des Moines, Iowa	34.50
		Sioux City, Iowa	20.25
		St. Louis, Mo.	20.00
		Lincoln, Neb.	20.00
		Denver, Colo.	19.50
		Butte, Mont.	16.00
		Los Angeles, Cal.	13.50
		San Diego, Cal.	18.50‡
		San Francisco, Cal.	17.50
		Portland, Ore.	22.50
		Seattle, Wash.	20.00
		Winnipeg, Man.	20.00
		Toronto, Ont.	18.00
		Halifax, N. S.	19.50
		Quebec, Que.	17.00

*Hartford, sold by mfrs. only; minimum price. Providence, price at yard, \$25 to \$35, Utica, Local, Soft.

*Mfrs. price.

‡Carlot rate, San Diego.



The First Brick House in Philadelphia

WHEN William Penn first came to America, in 1682, he built the beautiful old house that now stands in Fairmount Park — and he built it of *common brick*.

William Penn knew that for beauty, permanency and value in a house there is no material equal to *brick*.

We make this best of all materials for building — and we are going to tell you some of the reasons why Philadelphia's beautiful houses of today should be, like William Penn's, built of *brick*.

JOS. T. BYRNE EST.,
29th and Clearfield
JOHN H. EARLEY
Nicetown Lane and E St.
FRANKFORD BRICK WORKS
Torresdale Avenue
KEYSTONE BRICK CO.
Godfrey near Second St. Pike
NORTH PHILA. BRICK WORKS
Rising Sun and Luzerne
F. SEITTER'S SONS
Nicetown Lane and G St.
H. M. & C. B. Siner
Church and Tacony

"BUILD WITH BRICK—IT LASTS FOREVER."

COOPERATIVE ADVERTISING *for* BRICK

*Seven Philadelphia
Manufacturers Unite in
Campaign to Increase
Use of Common Brick*

ATTRIBUTE IT to what you will—whether the inspiration derived from the fine national advertising being done these days in the interests of brick and other burned clay products; the foresighted policy of informing the public of the real merits of the product you have to sell; or the pride taken in being a manufacturer of such an important commodity as building brick, the fact remains that some of the prominent Philadelphia, Pa., brick producers have become progressive-plus, and are doing some local advertising that is far and above the ordinary type. It is a credit to the industry as a whole, and ranks well with some of the national "copy" in which we all take pride.

These announcements are of real prestige nature, and yet, just like all good prestige announcements, carry a sales argument for brick between the lines that cannot be ignored. The advertisements are being run from week to week in local dailies, each week showing a change of text matter, but with same distinctive features in size and arrangement of announcement to link up the entire series.

THE LASTING QUALITIES OF BRICK

The first three advertisements are shown in the accompanying illustration. These are of uniform size, as will be noted, being of column width and ten inches long. Each carried the same characteristic emblem at the top, a sketch of William Penn's house, built in 1682—the first brick house in Philadelphia. What could be more appropriate? And what could carry greater significance of the lasting qualities of brick construction? One can easily picture the "copy writer's" eyes sparkle to think that he has this for his basic "thunder"; just 238 years old, and still standing! And mind you, it was built of *common brick*.

The first announcement of this series carries the caption, "The First Brick House in Philadelphia" and sets forth information regarding the William Penn residence, referred to above. The copy is par-excellence, short, terse and right to the point, listen: "When William Penn first came to America, in 1682, he built the beautiful old house that now stands in Fairmount Park—and he built it of *common brick*. William Penn knew that for beauty, permanency and value in a house there is no material equal



Beauty in Brick

DID you ever stop to admire the Colonial architecture of old Carpenters' Hall, tucked away out of sight near Third and Chestnut? If so, you must have been struck by the beauty of *common brick work* as done in the old days.

Handsomere buildings were never built than those of plain Philadelphia brick. But modern architects have learned how to produce new and varied effects in brick not dreamed of by our grandfathers. Get an architect who really knows how to handle common red brick. He'll give you a house that is a dream of beauty and style, a family home for future generations, yet built of the least expensive of all enduring materials.

Before you build, ask such an architect to point out fine specimens of buildings in Philadelphia brick.

F. SEITTER'S SONS
Nicetown Lane and G St.
H. M. & C. B. Siner
Church and Tacony
JOS. T. BYRNE EST.,
29th and Clearfield
JOHN H. EARLEY
Nicetown Lane and E St.
FRANKFORD BRICK WORKS
Torresdale Avenue
KEYSTONE BRICK CO.
Godfrey near Second St. Pike
NORTH PHILA. BRICK WORKS
Rising Sun and Luzerne

"BUILD WITH BRICK—IT LASTS FOREVER."



The Charm of Brick.

HAVE you ever gazed at Old Christ Church, near Second and Market, and tried to define the charm of that fine old building? Plain, simple, solid, yet graceful—what was the secret of the Colonial builders, that they wrought such beauty with the simplest materials?

Their secret was in knowing how to handle common brick.

In 1920 the builder is embarrassed by the endless variety of materials. In 1720 he had but *three*—wood, stone and brick—plain, common brick. He studied its possibilities with loving care, and we see the result today in the wonderful collection of Colonial brick buildings in which Philadelphia stands without a rival.

Before you build; get your architect's opinion of them.

KEYSTONE BRICK CO.
Godfrey near Second St. Pike
NORTH PHILA. BRICK WORKS
Rising Sun and Luzerne
F. SEITTER'S SONS
Nictown Lane and G St.
H. M. & C. B. Siner
Church and Tacony
JOS. T. BYRNE, EST.
29th and Clearfield
JOHN H. EARLEY
Nictown Lane and E St.
FRANKFORD BRICK WORKS
Torresdale Avenue

"BUILD WITH BRICK—IT LASTS FOREVER."

to brick."

The second announcement is headed, "Beauty in Brick," and makes reference to another historical landmark, Carpenters' Hall, saying: "Did you ever stop to admire the colonial architecture of old Carpenters' Hall, tucked away out of sight near Third and Chestnut? If so, you must have been struck with the beauty of *common brick work* as done in old days." Following, the text points out the value of building with brick today, and urges the selection of a capable architect.

The third advertisement catches the eye with the caption—"The Charm of Brick," and following the same plan another point of historic interest is pointed out to the reader, this time the Old Christ Church. It speaks of its charm in the simple, solid, yet graceful lines, and the development of a building of real beauty with the simplest materials. Concluding, the announcement drives home the big message, reading, "In 1920 the builder is embarrassed by the endless variety of materials. In 1720 he had but *three*—wood, stone and brick—plain, common brick. He studied its possibilities with loving care, and we see the result today in the wonderful collection of colonial brick buildings in which Philadelphia stands without a rival."

This local campaign is of cooperative nature, seven of the prominent local manufacturers having

joined in the movement. These companies are: Keystone Brick Co., North Philadelphia Brick Works, E. Seitter's Sons, H. M. & C. B. Siner, Joseph T. Byrne Estate, John H. Earley and the Frankford Brick Works.

An item of more than passing interest in this promotion work, is the tie-up given to the various announcements by the use of the slogan at the bottom of each advertisement—"Build With Brick—It Lasts Forever."



Young Ceramist Sent to China

Altho the art of manufacturing porcelain originated in China thousands of years ago, before the commencement of written history, the industry has developed more rapidly in other countries to which the art had been handed down indirectly from China, to the extent that now in the twentieth century American engineers are being sent to that country to promote the technique of porcelain manufacture. The porcelain which has always been made in China, has been produced for appearance only, and little or no knowledge exists in that Empire for producing porcelain in which quality and uniformity of the interior is of more importance than the appearance of the exterior.



J. S. LEIBSON

At the present time J. S. Leibson is enroute to Shanghai, China, to investigate the possibilities of manufacturing electrical porcelain to be used in the making of electrical apparatus which the General Electric Co. expects to produce in or near Shanghai. Mr. Leibson has the important charge of seeking raw materials and testing them to learn of their value for the purpose mentioned above. He graduated from the Department of Ceramic Engineering, University of Illinois in June, 1919, and immediately associated himself with the ceramic department of the General Electric Co. at its Schenectady, N. Y., plant. He is only twenty-one years of age and it is unusual for such a young man to hold the important position that has been given to him.



"A 'thank you' is a forget-me-not from the garden of courtesy."

The BUILDING SITUATION in the EAST

DESPITE ADVERSE CONDITIONS in different phases of operation, there is an optimistic sentiment prevailing in the building industry thruout the East. Plans are going forward for a large number of important projects and big activities are in sight if the material market and labor will allow. Housing work continues to hold the center of attraction and anticipated enterprises of this nature will run into substantial totals unless all signs fail. Up to the present time housing operations have been talked of more than actually advanced, but the handicaps brought to the industry thru material prices and shortage, and labor dissensions may be held as largely responsible.

Practically every eastern city is experiencing a condition of great shortage in the matter of basic commodities. While the freight situation is trying to right itself, it is slow progress, and embargoes are still in force to an extent that severely hampers the manufacturer and the dealer. Another fortnight may indicate a real change for the better—at least, this is what those in the trade earnestly wish. As now, it is a question of taking just what you can get, and this is no pleasing condition for the material dealer and his trade. The value of waterways has been demonstrated forcibly during the past few weeks, and cities like New York, Newark, N. J., Philadelphia, Pa., and Baltimore, Md., that are so situated as to enjoy such advantages, have been securing the bulk of supplies of brick, mason materials, burned clay products, etc., in this way.

Labor in the building trades in various eastern cities continues in an unsettled state. The demands of the men in certain branches of the industry seem to know no limit, and as soon as one advance is made, thought of another appears to take root under growing dissension. Whether the peak has been reached is simply a matter of guesswork, but one thing is sure, and that is with higher prices prevailing curtailment in operations can be expected. That is just what has happened in a number of instances now, and men may find themselves in a position of higher wages but no work. And there isn't much satisfaction in this for anyone.

WHAT THE CITIES ARE DOING—NEW YORK

The building situation at New York while encouraging from the viewpoint of projected work, is hampered in the aspect of actual conditions. There is a great shortage of materials, with the exception of brick; burned clay products such as hollow tile, terra cotta for structural work, and other specialties are very scarce, as are general mason materials. Dealers cannot begin to supply the current demand in quantities as desired, and reduction in actual construction is accordingly coming to pass. The anticipations of a bright spring and summer building period are giving way to more serious reflection of prevailing conditions, and the outlook is not of the best.

Labor in the building industry in the Greater City has been granted a further advance, and appearances indicate that harmony will now be prevalent during the remainder of the year. Effective May 1, the Building Trades Employers' Association adopted an increase in wages totaling about \$1.00 a day for every mechanic and helper in all branches of the trade, with the exception of the bricklayers, who recently obtained an increase to \$10.00 a day, as recorded in *Brick and Clay Record*. This latter advance, the result of a decision by Mayor Hylan, acting as arbitrator between the two interests concerned, is responsible in a large meas-

ure for the increase to those in other divisions of the trade, for with an average differential of \$2.00 per day prevailing between this and affiliated trades in the industry, the men were not satisfied. It is stated that about 115,000 workmen are affected by the decision of the Employers' Association, and that the weekly payroll will be advanced to the extent of approximately \$700,000.

In an effort to relieve the housing situation in New York, Mayor Hylan has appointed a Housing Conference Committee, with membership comprising a number of representative men of the community, and prominent officials in the building trades. These latter include Charles J. Kelly, chairman of the Board of Governors of the Building Trades Employers' Association, and Robert P. Brindell, president of the Building Trades Council. Frank Mann, Tenement House Commissioner, is chairman of the committee.

NEW JERSEY

Newark, N. J., is maintaining its progress in construction activities. The month of April made new records in this line, the period rounding out with a total of \$4,208,409 for building operations of all kinds. More than a million dollars of this aggregate was for new factory work, the exact figure being \$1,005,100; the different structures are all of brick or other fireproof materials, and indicate the strong call for burned clay products now prevailing in this section. That housing work needs considerable "boosting" locally, is shown by the fact that operations of this kind for the month in question totaled but \$398,500, giving accommodations for only 58 families. To again mention the popularity of brick and other burned clay products in this city, it is interesting to note that the new buildings of all kinds to be formed of this or other fireproof material aggregated \$3,547,445 of the grand total noted.

Building operations continue at good status in various important cities thruout New Jersey. At Trenton, work to an amount of about \$11,000,000 is now under way or projected for immediate activity; this embraces a number of public buildings, including the Stacy-Trent Hotel and Keith Theater, as well as a large volume of industrial enterprises, and in connection with this latter, there are to be counted potteries and other ceramic plants. At Morristown, Paterson, Passaic and other cities in the northern part of the state, there is a comfortable amount of work going forward, and in the Raritan River section, housing operations hold the center of interest.

The New Jersey Legislature is considering a bill (House Bill No. 455) providing for the granting of permission to municipalities to construct homes, sell or lease them to people in such communities, and really enter the building business in a substantial way. It is a permissive measure, and carries a referendum feature, making the provisions inoperative until passed at elections in the respective municipalities. Governor Edwards has urged the passage of the bill.

PHILADELPHIA

Construction work at Philadelphia is holding up well. Industrial operations form the bulk of activities and housing work, so much needed, is rather at low ebb. The prediction made in the last issue of *Brick and Clay Record* that April would round out a banner month in this district has come to pass. This period proved to be the largest month

ever recorded in the building industry in Philadelphia, with total reaching \$9,882,800 for plans filed. This shows that construction work is going on in the right way, despite the high prices of building commodities, shortage of materials and labor difficulties. The trade in general in this locality expresses an optimistic opinion as to the outlook and still bigger months are looked for in 1920 if other conditions will only prevail near-normal.

The turn of the month brought labor on "its feet" at Philadelphia, and the now time-worn demand for high wages was heard. On the first of May, carpenters quit work with a request for \$1.25 an hour and five-day week; the men have been earning on an average of 80 cents an hour, yielding about \$1.10 an hour with bonuses. After a few days of "quietude," the master builders offered a concession of \$1.25 an hour and six-day week, excepting during July and August, and a large number of agreements have been signed on this basis. Thus the men will earn a minimum of \$60.00 a week, and about \$80.00 or more, with overtime. Teamsters and yard employes went on strike May 1, with demand for higher wages; the drivers ask \$24.00 a week, truck drivers, \$26.00 and \$28.00, and yard-men 75 cents an hour. Steamfitters are out with request for increase from 87½ cents to \$1.25 an hour for fitters, and from 62½ to 90 cents an hour for helpers. Inside painters have joined the "brigade" with demand for same rate as now paid outside painters, or \$1.00 an hour, and five-day week; the men have been receiving 60 cents an hour, while the former wage scale of the outside men was 75 cents. So, all in all, it was some "May Day" celebration for the Philadelphia building trades!

WILMINGTON

The advance made in construction work during the past month or so at Wilmington, Del., continues under added impetus. While the majority of operations are of smaller scope, yet the total is rounding out well, and indications point to a rapid advance during the coming month. A compilation of building activities at Wilmington for the past year, ending April 30, shows that in this time all construction records have been broken. The total work aggregates an estimated valuation of \$7,013,796; a survey of the operations shows that factory and industrial construction, with alteration and repair work, formed a large part of the total. In the matter of new dwellings, plans for only 174 structures of this kind have been filed during the past twelve months, and despite the fact that the city is in great need of developments of this character.

As in other eastern cities, labor in the building industry is not entirely contented at Wilmington, Del., and a strike is threatened among the carpenters; the men have been earning 80 cents an hour, and ask \$1.25; the employers have offered a \$1.00 an hour basis as a compromise, but so far the offer has been refused. It amounts approximately to an increase of about \$8.80 a week on a 44-hour schedule.

BALTIMORE

Construction activities at Baltimore, Md., and vicinity continue at an encouraging status. For many months past this city has been giving concentrated attention to new buildings of all kinds, and the results are distinctly gratifying to those directly concerned. Housing work seems to have been lost in the maze of industrial activity that is going forward in the different factory centers. During the past fortnight plans have been filed for a number of large projects, while out-of-town concerns have secured sites for early construction. Considering four operations alone, the work will aggregate about \$10,000,000, these including a new plant for the Simmons Mfg. Co., of Kenosha, Wis.; new works of the Locke Insulator Co., of Victor, N. Y.; a large plant for the Columbia Graphophone Co., in the Orange-

ville district; and a shipbuilding works for the Globe Shipbuilding & Dry Dock Co., in the Fairfield section. Projects of this nature are making heavy demands on local dealers, and all branches of the trade are busy.

A survey of the housing situation at Baltimore shows that the acute conditions of a few months ago are gradually being relieved, and spring construction work in matter of brick dwellings has an encouraging aspect. Local architects report a number of developments soon "to come to a head," covering two and three-story brick dwellings, and another month is expected to show substantial increase in actual construction. In other Maryland cities, the situation does not seem quite so encouraging, and rather serious conditions prevail at Frederick and neighboring sections. At Hagerstown, the Hagerstown Homes Corp. is becoming an important factor in dwelling construction, and plans have now been completed for a number of two-story homes.

WASHINGTON

The capitol city is enjoying a building boom in the matter of house construction of no mean proportions. The weeks are showing an average of from \$300,000 to \$400,000 for work of this nature, covering both dwellings and garages. The advent of real spring weather in this district has given an encouraging aspect to the situation, and those contemplating construction are now more than ever inclined to "get busy." The reflection of this desire is shown in the increased call for brick, burned clay and other fireproof buildings products, and dealers in this vicinity report an encouraging demand for standard commodities.

A factor of considerable importance in the matter of increased building operations at Washington, is that of the new law which allows banks to charge a rate of interest as high as 8 per cent. Unquestionably this will make mortgage money and other funds for building much easier thruout the District of Columbia. Washington banks have been active in loaning large amounts in New York, attracted by the high prevailing interest rates for call loans in the metropolis. It is held that with the new local law operative, a large part of these funds will be available for Washington activities.



The Brick and Burned Clay Markets

To say that there is an active call for building materials of all kinds thruout the eastern district of the country is rather drawing it mild. The call for standard commodities is far in excess of the supply, and the shortage of certain products in different cities is growing to an alarming extent. Dealers interviewed express great concern, for in a nutshell, they "don't know where they're at." While the freight situation is clearing, the progress is very, very slow, and the shortage of much-needed commodities can be attributed to existing embargoes. The curtailment in transportation has at least one encouraging feature in the fact that producers have had an opportunity to stock up, and in different eastern centers it is reported that as soon as freight is moving to any appreciable extent, large supplies will be available. Active and progressive producers, as well as dealers, have been using every possible means to get building supplies to market, utilizing available water facilities and motor trucks; in this latter connection, motor driven trucks have again and again demonstrated their usefulness in emergency conditions.

The past fortnight has shown a fair demand for common brick at New York—a demand that would have been much heavier had other materials, needed for building construction, been available. Moreover, the strike of the brick handlers, referred to in the last issue of *Brick and Clay Rec-*

ord, has not been settled, and this is going to retard desired activity. The price holds firm at \$25 a thousand wholesale, alongside dock, with additional charge of 15 per cent. for handling and hauling. Owing to the decrease in call, a slight recession from this figure would not be surprising in the weeks to come, as producers are not inclined to hold the brick in large quantities. The New York market at the present time shows close to 10,000,000 brick available for distribution, and this, even for New York, is a comfortable unsold allotment. Supply dealers continue to ask \$30.45 for good, hard common, delivered on the job in the first zone.

Thirty dollar brick is still prevailing thruout northern New Jersey and in the southern section of the state. The figure at Newark, N. J., holds at \$31 and \$32 a thousand, delivered on the job, indicating a slight fractional decline during the past fortnight; a similar figure is prevailing in the vicinity of Paterson, N. J., while dealers at Passaic, N. J., are asking \$30. At Trenton, N. J., a point of production, the spring season with its increased call has brought a slight advance in brick quotations, and good, hard common, delivered on the job, is now quoted at from \$27 to \$30. At Philadelphia, Pa., and Wilmington, Del., the prevailing average is \$25 a thousand, delivered, while at Baltimore, Md., from \$23 to \$25 is asked. At Washington, D. C., local producers who deliver direct from their yards to building site by means of motor truck, are asking \$22.50 and \$23 a thousand. In connection with the increasing value of common brick, whether new or second-hand, an interesting illustration has come to light at Newark, N. J., giving specific evidence beyond price consideration, of the longevity and perpetuality of brick. This commodity was used in the Globe Building on Broad Street many years ago, when the prevailing price was \$6.00 a thousand; this structure is now being demolished to make way for a new building, and the brick used, after all these years of service, is now being sold at a price of around \$20 a thousand, or the prevailing figure for second-hand common in this locality.

There is little to be said as regards hollow tile building blocks, partition tile, or other burned clay commodities at various eastern centers. Every city reports a great shortage of material of this kind, and to an extent that no stable quotations are available. Such figures as are given are largely nominal, and simply because many of the dealers have no such commodities to sell, either in their yards or direct from the manufacturers in large quantities. Partition tile 3x12x12 is quoted at \$203.50 per thousand sq. ft. by dealers at Newark, N. J., while those in New York are asking \$215 for this material. The price at Wilmington, Del., is around \$145 and at Baltimore, Md., about \$10 less. There has been a noticeable advance in the prices of fire brick at a number of eastern cities. At Paterson, N. J., the quotation is now \$85 a thousand, while at Trenton, N. J., a point of production, the figure is \$75. New York dealers are offering a good grade of material for \$75 a thousand. There has also been an advance of from \$3 to \$5 per ton in fire clay quotations in various eastern cities.

* * *

With the Brick and Burned Clay Producers

With the turn of May, brick producers in the Hudson River district are becoming active. Every ounce of available labor is being utilized to get things ready for active production, and within a few weeks it is expected that operations will be going ahead at a good status. A number of yards so equipped to allow have commenced work on their season's run. The call at New York is, of course, the big factor from the production standpoint, and with the situation as it stands at present, it is not likely that

capacity work will ensue. Moreover, as noted in recent issues of *Brick and Clay Record*, labor conditions in this section are not of the best, and the outlook in this respect holds no great encouragement. Brick producers at New York familiar with the situation hold that the output will be about that of last season, which approximated between 400,000,000 and 500,000,000 brick.

The Independent Brick Co., Trenton, N. J., is experiencing an active demand for the high-grade common brick as produced at its various plants. The company's main works are located at Bordentown, N. J., while other plants are at Trenton, Fieldsboro and Kinkora. This company is the largest producer of high-grade common brick in central and southern New Jersey, with an aggregate production of about 50,000,000 brick per annum. In addition to regular building brick, the company manufactures face brick and sewer brick, operating as well as a dealer in other burned clay products, including such commodities as fire brick, enamel brick, paving brick, roofing tile, hollow tile, etc. Large quantities of material are being furnished for local operations, and a recent shipment included brick for the Panama Canal zone. At Trenton, the product of the Independent Brick Co. is going into new buildings for such concerns as the Maddock Pottery Co., Lenox, Inc., John A. Roeblings' Sons Co., Ajax Rubber Co., Thomas Maddock's Sons Co., Cook Linoleum Co., Thermoid Rubber Co., and numerous others.

The Burton Clay Products Co., Altoona, Pa., has been organized with a capital of \$200,000 to manufacture burned clay products of various kinds. Benjamin F. MacCartney, 1817 Thirteenth Street, Altoona, is treasurer of the new organization.

The new building of the Baltimore Brick Co., Maryland Trust Building, Baltimore, Md., will form an addition to the company's plant at Highland and Monument Avenues. The structure will be one-story, about 40 x 100 feet, of brick construction, and is estimated to cost about \$25,000. The company will establish a one-story brick machine shop at the same works, about 28 x 116 feet, to cost approximately \$5,000. Plans for this latter structure have been filed.

The receiver of the Raritan Clay Products Co., Adrian Lyon, has secured permission from Vice Chancellor John Griffin to sell the plant of the company located on the Raritan River in the vicinity of Perth Amboy. The Moss Estate, Inc., New York, is the purchaser, and will secure the plant for a price of about \$85,000, the title to pass on June 15. It is said that this sale together with agreement which has been made with the mortgage creditor of the company, will permit the receiver to pay the claims of the corporation in full. The property to be sold comprises about 17 acres of land, with buildings. The company holds about 152 acres of clay lands in this district, and at the termination of the receivership these will be turned back to the corporation. The purchaser has negotiations under way for a lease of the acquired property to a company which proposes to utilize the works for the production of burned clay specialties.

The Friderichsen Floor & Wall Tile Co., Wilmington, Del., has been formed under state laws with a capital of \$375,000 to manufacture floor and wall tile, and other ceramic products. The incorporators are William F. O'Keefe, E. E. Aberle, and George G. Steigler.

Strickler & Hinkle, Maytown, Lancaster County, Pa., operating a local plant for the manufacture of common brick have sold the works to a new company headed by M. Kauffman. The new owners plan to operate the plant and will continue production on the same basis as heretofore.

In discussing the housing situation and the need for homes

in Philadelphia, Pa., E. E. Hollenback, president of the Master Builders' Exchange of this city, says that the keynote to the situation seems to be "quantity production, and standardization," as a means to the speedy relief from present conditions now facing the nation in this respect. It is held that serious concentrated thought must be given to the question if any headway is to be made in providing homes for workers, and aiding the industrial status of the entire country.

The Trent Tile Co., Inc., Clagg Avenue, Trenton N. J., manufacturer of ceramic wall and floor tile, has arranged for the construction of a one-story addition to its plant on Clagg Avenue. The company recently acquired additional property on this street, with frontage of about 150 feet, for proposed expansion.

The Fish Brick Sales Co., a Pennsylvania corporation organized with capital of \$10,000, has filed authorization to operate at New York. Offices will be at 105 West Fortieth Street, and J. J. Fish will be representative.

Thomas Armstrong, president of the Conkling-Armstrong Terra Cotta Co., Philadelphia, Pa., was the principal speaker at the annual meeting of the Wilmington Employers Association, Wilmington, Del., on April 30. The meeting was held in the clubroom at the Hotel DuPont, and was well attended. Mr. Armstrong gave an interesting and comprehensive talk.

Among the active brick producing companies in the Washington, D. C. district is the National Brick Co., with plant at Terra Cotta, near the city. This company has been delivering large quantities of material thruout the city, using motor trucks for this service. The average haul is about four miles. In discussing labor conditions, Mr. Benton, an official of the company, points out that his organization has been fortunate in the months past not to have had any difficulty of this kind. Mention is made of the fact that common labor at the plant was earning \$1.50 a day in 1914, and is now receiving on an average of about \$4.50 a day. This company specializes in the production of high-grade common brick, with yard capacity of about 30,000 brick a day. Material is being sold locally at from \$22.00 to \$23.00, delivered.

* * *

Says Panic is Well Nigh Impossible

The American people have small reason to fear for the financial future of the country if they exercise common sense and moderation. This is the consensus of banking and business opinion. Men of large affairs in Chicago, as well as elsewhere, generally condemn irresponsible talk of a "panic" or of serious industrial disturbances, while at the same time frankly stating that the credit situation is unduly stringent and should be corrected.

"The country is passing thru a period of readjustment as an aftermath of the war," George M. Reynolds, president of the Continental and Commercial National Bank, said. "There is nothing in the present situation that should give cause for alarm. What is most needed is that the American people should exercise their usual common sense and practice the same moderation and cooperation that marked their war efforts.

SCOUTS TALK OF PANIC

"Under the present federal reserve system such an occurrence as a panic is well nigh impossible and there is nothing in the situation that can justify such talk in the slightest degree.

"There is a credit stringency, certainly, and what is needed is that our big manufacturers and industries put on the brakes to a mild degree. The banks are endeavoring to check ill judged business expansion by carefully scrutinizing their loans,

granting credit for legitimate needs but refusing it for speculative enterprises.

"But too many persons confuse the tight credit situation with the money situation. There is no dearth of money and every one who has funds in the banks should clearly understand that the banks now, as in the past, are perfectly able to meet every claim of their depositors. Under the federal reserve system the banks are always able to obtain all the cash they may need. Therefore talk of a panic is not only idle but also malicious.

MONEY SITUATION STRONG

"The money medium of the country has increased about \$2,500,000,000 since 1914; this country holds about 40 per cent. of the world's total gold supply, and the reserves of the banks as a whole under the federal reserve system are being maintained above the 40 per cent. mark.

"Contrast these reserves with those of the Bank of England, which during the war and now has maintained reserves ranging between 13 and 19 per cent. Also consider that the resources of our federal reserve system are considerably greater and its powers much broader than those of the Bank of England. So why should we talk of a panic or of an industrial calamity?

"Commodity prices are high and should be lower, but I think the peak has about been reached and the downward turn is imminent. Credit is tight. But these things always come as the aftermath of war.

THE BANKS' BURDEN

"The method of our government's financing of the war has resulted in one of our greatest banking burdens. The Liberty bonds were practically forced on the banks and on the people and the interest rates were not made high enough. The result has been that the bond issues were not thoroly distributed, there has not been sufficient incentive for many people to hold them, and they have been thrown on the market for sale or thrown back on the banks as security for loans.

"Approximately half the loans of the federal reserve banks have been made on government securities. This means the banks are carrying this burden which was intended to be assumed by the people as a whole. It means that the banks have only about half the funds they otherwise would have for loans for commercial purposes.

"Added to this is the fact that, owing to high costs and industrial disturbances, it now requires nearly three times as much credit to conduct a given piece of business as before the war.

"USE COMMON SENSE"

"These are the reasons that have resulted in a credit stringency. Now what is needed is that we put on the brakes a bit, use moderation in our way of living, in our enterprises get back to normal or even increased production, and, above all, exercise the common sense that the American people have been noted for in the past."—*Chicago "Tribune."*

* * *

The New York "Times" of May 9 published an extensive interview with Commissioner Colver on the Excess Profits Tax. He states that so complex is the machinery of this tax that not many consumers realize how and why they pay all or part of it.

* * *

"Your postman is always on the job—and he is long-suffering. Some folks even set their time-pieces by his regularity. His routine would seem less cheerless if he heard 'thank you' from you more frequently."

* * *

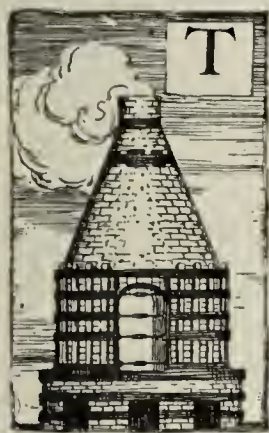
"'Thanks' is no more 'thank you' than 'gents' is 'gentlemen.'"

FINE CERAMIC MANUFACTURE



A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products Such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

NEW PLANT FOR PORCELAIN WORKS



THE FORDS PORCELAIN WORKS, Perth Amboy, N. J., manufacturers of sanitary ware, has inaugurated operations at its new plant at Lehigh Avenue and Stanford Street. This plant comprises the former factory of the Standard Terra Cotta Co., now known as the Atlantic Terra Cotta Co., and has been in possession of this latter organization for many years; the plant has been idle at various intervals, the Atlantic company having concentrated operations at its other works in this district. During the war it was used for emergency production, but lately has again been idle.

The plant was acquired by Abel Hansen, head of the Fords Porcelain Works, to provide for increased sanitary ware production, as announced in a late issue of *Brick and Clay Record*. It will be the third factory of the company in this section, and will be known as Plant No. 3; Plant No. 1 is located at Fords, near Perth Amboy, while Plant No. 2, the main works of the company, is on Lehigh Avenue, Perth Amboy. The new plant will specialize in a similar line of specialties as manufactured at the other establishments and will give employment to about 125 men. Owing to the similarity of output with former production at the works, it will not be necessary to make more than a few minor changes to accommodate the new business, and no additions are contemplated at the present time.

With these three plants the company will operate a total of 24 kilns, and with orders now on hand continuous capacity operation is assured for some time to come; the business now booked for future delivery is said to aggregate in excess of \$500,000.

BUYS PLANT WHERE HE WAS ONCE EMPLOYED

There is much of a business romance connected with the acquisition of the Standard Terra Cotta plant by Mr. Hansen, for this is the very factory at which he was once employed. Like the iron and steel business and other important branches of industry, the ceramic field has produced its master men—men who have come from the ranks and whose progress gives indisputable evidence of the opportunities that are constantly being presented to the young man of today. Some of the advances made by these now leaders in their fields read almost like fiction—and so in the case of Abel Hansen.

Mr. Hansen came to this country from Denmark thirty-two

years ago and going to Perth Amboy he secured a position as a laborer at the plant of the Perth Amboy Terra Cotta Co., later the Atlantic Terra Cotta Co.; and this factory is the one that he has now acquired. His pay was on the basis of 15 cents an hour, or \$1.20 for an eight-hour working day, ranging about \$35 a month. This was in 1888, and he remained at this plant until the spring of 1891, learning the business from actual experience and observation.

At the time last noted he went to work in a similar capacity as a laborer with the Standard Terra Cotta Co. In 1903 he became superintendent at this plant, having been 15 years in advancing to this position, step by step, and occupying this position when this factory was acquired by the Atlantic Terra Cotta Co. in 1906.

Following this change in ownership, Mr. Hansen retired from the business, deciding to go into sanitary ware manufacture on his own account. He went to Fords and started the Fords Porcelain Works on a very small scale. It was quality production from the start, and as the business increased additions were made to the original factory. Commencing with but a mere handful of men, the force was enlarged until today this plant is giving employment to about 200 operatives; as stated, it is known as Plant No. 1.

The location, however, was found to be inadequate to meet the growing demands of the business, and in 1909, three years after starting the Fords plant, Mr. Hansen acquired the plant of the Perth Amboy Ceramic Co., Lehigh Avenue, Perth Amboy, then in the hands of receivers. He rebuilt this plant, known as Plant No. 2, and made it his main works. At the present time a total of about 120 men are employed here.

On January 1, 1916, the Fords plant of the company was destroyed by fire. The works were immediately rebuilt on a larger scale, and in a way to provide increased capacity and operating facilities.

Within fourteen years this company has grown to be a dominating factor in the manufacture of porcelain sanitary ware. Today it is the largest manufacturer of porcelain wash trays, with a production aggregating more than all other manufacturers combined. At the Panama-Pacific International Exposition at San Francisco, Cal., in 1915, the exhibit of the Fords Porcelain Works was awarded the gold medal and blue ribbon, as a first prize for the display of porcelain sanitary fixtures.

NO LABOR TROUBLES AT HIS PLANT

As an idea of the growing production at the plants, it is interesting to note that in 1915, 1916 and 1917, a total of 139,000 pieces of ware were manufactured. In discussing "shop matters," Mr. Hansen points out that in his fourteen years of business there have been no labor troubles at the plants of Fords Porcelain Works. This, he says, is the result of the best possible understanding with the employees, giving them all logical privileges in the conduct of the business.

From this brief sketch of Mr. Hansen's career in the ceramic field it is easy to see that he is a born leader of men, and the satisfaction that he enjoys in being in a position to purchase the plant where he first engaged can readily be un-

derstood. Despite the fact that he is a very busy man, with the responsibilities of a large and growing business, Mr. Hansen finds time to do everything possible to assist the ceramic industry in New Jersey.

He has been very active in connection with the proposed new ceramic school at Rutgers College, New Brunswick, N. J., and in cooperation with Senator Brown, Perth Amboy, has lost no opportunity in bringing this project to a successful conclusion. At the winter meeting of the New Jersey Clay Workers' Association and Eastern Section of the American Ceramic Society, Mr. Hansen was elected president of the organization, having acted as vice-president during the year previous.

* * *

Colloid Phenomena in Ceramics

At the fifty-ninth meeting of the American Chemical Society which was held in St. Louis on April 12 to 16, there were read several papers of interest to ceramists and among them was one by A. V. Bleining on the "Ceramic Processes Associated With Colloid Phenomena." This paper was abstracted and published as follows in "Chemical and Metallurgical Engineering":

Clays are mixtures of finely divided aluminum silicate, of the formula, $Al_2O_3SiO_2 \cdot 2H_2O$ with granular matter, such as quartz, feldspar, mica, etc., and other colloids like ferric oxide and hydroxide. The particles are of the magnitude of 5 μ , or smaller. Clay suspended in water is affected in a pronounced manner by alkalis, salts and acids. The former tend to deflocculate it, the latter two cause coagulation. Both phenomena occur in phases. Absorption of the basic ion of salts is characteristic, the acid ion remaining in the dispersing medium. Deflocculation is employed in the purification of clays and in the casting process. Measurements of the fluidity of clay suspensions offer the most convenient means of detecting the changes caused by the presence of reagents, tho the distinction made by Bingham between viscous and plastic flow must be kept in mind.

The migration of the negatively charged clay particles to the positive electrode within the field of a direct current is the basis of the invention of Scherwin for the purification of clays. The addition of small amounts of NaCl increases apparently the charge of the clay particles and facilitates their disposition. The removal of the impurities from clay is, however, not accomplished thru the electrical separation but independent of the latter by previous treatment with NaCl.

The plasticity of clays is associated with flow under pressure and a finite yield point as distinguished from viscous flow showing zero yield point, as proposed by Bingham. The water content, contraction on drying and the capillary flow of water to the surface of the clay are affected by the presence of electrolytes, especially those whose bases show higher valences.

Upon drying and retempering, clay shows more or less of a "set," associated with decreased plasticity, the more pronounced the higher the temperature. Completely dried and dehydrated clay is exceedingly hygroscopic and absorbs vapors with avidity. Dehydrated clay also possesses the properties of a catalyst in certain reactions and combines with bases like calcium hydrate at atmospheric temperature. Dehydration is associated with increase in volume and, of course, is endothermic.

In the firing of clay, contraction of the external volume takes place due to the effect of surface tension and the lowered viscosity upon heating. With maximum contraction and closing of the pore space the state of vitrification is reached. The mass of the clay itself undergoes expansion upon heating irrespective of the external contraction. The relation between temperature, time and contraction is a most valuable one for expressing the heat work done upon clays and other silicates

and oxides. Vapor pressure likewise is a probable factor in the condensation of substances like magnesia, coal, carbon, etc., or in mixtures of inert oxides with those of higher vapor tension. The end result of the heating process tends toward the partial elimination of the colloid and the substitution of the anisotropic phase.

* * *

In the Eastern Pottery Field

Things in pottery circles at Trenton, N. J., are gradually becoming more normal after rather distressing conditions brought about by the railroad strike. The various plants of all kinds are now operating at good capacity, and there is no let-up in the intention of pushing production to the limit. Good labor is scarce, and a rather hampering situation is found in the fact that there is no little bidding among the employers for the services of men, and certain potteries show no hesitancy at all in offering employes of other plants more money to engage with them. Activities of this nature cannot be beneficial, and show rather a lack of co-operation and coordination among the various potters. The sanitary ware plants are particularly active, as are also the general ware potteries. And it is not fair to mention these two without reference to the electrical porcelain factories, which are also engaging to the best maximum.

* * *

The Fulper Pottery Co., Flemington, N. J., manufacturer of high-grade art pottery, has increased its capital from \$50,000 to \$300,000 for proposed expansion. This company has made remarkable strides during the past few years in the production of fine ceramics, including such specialties as flower bowls, incense burners, flower flagons, coasters, urns, vases, jars, etc. Its slogan is "America's Most Noteworthy Pottery" and well lives up to this name. William H. Fulper is head of the company, and gives his personal attention to all features of production.

* * *

The Pope-Coshocton China Co., Coshocton, Ohio, has preliminary plans under way for the construction of a large local pottery. The structure will be one-story, brick, and is estimated to cost about \$300,000, including equipment. William Pope is general manager.

* * *

The Vitrified China Co., Buffalo, N. Y., has been organized with a capital of \$100,000 to manufacture chinaware. The company is headed by L. Mandros, and N. and C. Hoopis, all of Buffalo.

* * *

The Davidson Porcelain Co., East Liverpool, Ohio, has awarded a contract to D. F. Nellis & Sons, East Liverpool, for the erection of a new plant at Chester, W. Va. The works will comprise a building 201x425 ft., with three kilns. It is estimated to cost close to \$50,000. W. W. Ingram, Goodwin Pottery, East Liverpool, is interested in the organization.

* * *

The General Electric Co., Columbus Avenue, Pittsfield, Mass., is having plans prepared for the construction of a one-story addition at its local works to be used for the manufacture of electrical porcelain specialties, for insulating service. The structure will be 100x400 feet, located on Morningside Avenue, and with equipment is estimated to cost about \$200,000.

* * *

The Ritger Excelsior Pottery, 495 North Fifth Street, Newark, N. J., specializing in the production of flower pots, etc., has arranged for the erection of a one-story addition, about 40x40 feet, for garage service for company cars.

The SUPERINTENDENT

Helpful Hints for Practical Men Whose Problem is Maximum Production With Minimum Cost

Do You Load Your Kilns to Standard Capacity?

How many superintendents watch carefully the matter of kiln loading? Every superintendent knows that it takes about so much coal to burn a kiln of ware an hour—say on high fire—regardless of whether that kiln is loaded to seventy or ninety per cent. capacity. This, while it does not seem to be true theoretically is, nevertheless, recognized as being nearly correct as far as practice goes.

If it takes a ton of coal to burn a thousand brick when the kiln is loaded to capacity, it will take very nearly as much coal to burn the same kiln the same length of time loaded from seventy to ninety per cent. capacity. Now, if a kiln holds one hundred thousand brick when loaded to capacity, it would require one hundred tons to burn it off. With these conditions the coal consumption per thousand brick would amount to one ton. If, on the other hand, there were ninety thousand brick set in a kiln, the coal required per thousand brick would amount to 1.11 tons. Furthermore, if the kiln contains only seventy thousand brick, the coal consumption per one thousand brick would amount to 1.42 tons.

If the capacity of your plant is fifty million brick a year and coal costs you \$3.00 a ton, it costs you \$.92 a thousand, or \$46,000 more per year if you are only getting seventy per cent. of the standard number of brick in your kilns instead of ninety per cent.

The merely sums up into the fact that if efficiency of kiln loading is seventy per cent. instead of ninety per cent. you are throwing away more than forty thousand dollars a year. How many superintendents know every time a kiln is set just how near it is set to capacity, in actual figures which cannot be mistaken?

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To Clean Belts and Pulleys

Belts and pulleys should be kept clean of any accumulation of dressing or dirt. However, in the clay plant dust will accumulate upon the belts and pulleys and hence it becomes necessary to find some means of removing this dirt without injuring the belts or pulleys in any manner. It is best to use a wooden or metal scraper for the pulleys and a rag moistened with coal oil or gasoline for the belts. This is very important no matter what belt you are using.

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A Need for Better Haulage Equipment

It is a disappointment to visit a clay plant and upon inspection find it in good operating condition except for the clay cars. The haulage system on the clay plant which brings the raw material from the pit to the factory is much the same as the national transportation system which connects industry with public welfare, and just as the national railway system is now in a critical condition and is holding back the country's production and increased prosperity, so can the haulage system on a clay plant be in poor shape so as to hold back factory production and decrease profits.

Altho it may not be practical to build a first class road bed

from the factory to the clay hole because of the frequent changing of the trackage, it nevertheless is best to lay a trackage system that will not be conducive to derailing at frequent intervals. You can go on some clay plants and find clay cars being used that are very inefficient and require excessive time and labor to operate. It would pay the plants to discard their clay cars in some instances and purchase new ones. This would often be accompanied by considerable less difficulty and smoother operation.

Superintendents would do well to give attention to their haulage equipment and repair it so that there is less jumping of the track; it is easier to dump and bring back into place again; and simpler to couple and uncouple, and so forth.

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Angle and Material Used in Clay Chutes

Superintendents are frequently called upon to build chutes for feeding clay into machines or on to a conveyor belt. Wooden and steel chutes are the most common type in use, altho a chute made out of paving brick has been used to good advantage for feeding the raw clay to the dry pan on one large paving brick plant.

F. R. Kanengeiser, formerly general superintendent of the Bessemer Limestone Co., some time ago told of a chute that was designed on his plant which gave very satisfactory service. It was made of steel plate and set at an angle of forty-five degrees thruout two-thirds of its length. The angle was then broken to twenty-two and a half degrees for about one-fourth of its length; then a flat lip which is adjustable was inserted. In case the material is very uniform the adjustable feature is omitted. The sides of the chute taken at full width of the delivery opening are then drawn in so that they are one-half of the width of belt apart when the chute reaches the belt. The sides are extended along the belt in the form of wings which slightly diverge. In this way, the material reaches the belt without battering or bruising it, is placed on the center of the belt and when clear of the sides of chute, lays on the center with the edges of belt clean and with no chance of edge wear.

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Further details are now available in regard to the new porcelain plant of the Locke Insulator Mfg. Co., at Baltimore, Md., mention of which was made in the last issue of *Brick and Clay Record*. Plans have been filed for three large one-story buildings to cost about \$320,000, and of a size 109x172 ft., 140x340 ft., and 141x391 ft., respectively. These structures will be followed by other buildings, bringing the total construction cost up to about \$800,000, including equipment. The plant will have 24 kilns, and these of thoroly modern type. It is expected to have the initial works ready for service by the close of the year, giving employment to about 300 men and women. This plant will be used for the production of high-grade porcelain specialties, including pin-type insulators, bushings and kindred products. The company has a large tract of land at Light and Cromwell Streets. Headquarters are at Victor, N. Y.

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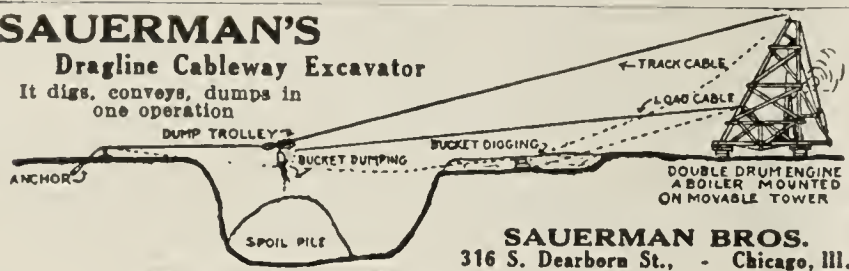
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Varied Fields of Clayworking

Building Attractive Brick Home

Oscar Hillenbrand has started work on an attractive seven room brick bungalow on the company's property in Louisville, Ky., south of the city, and on a high hill, which gives a commanding view of Camp Taylor, and also of the city.

Visits Ohio Plants

H. S. Barr, secretary of the Michigan Face Brick Co., of Grand Rapids, was a business visitor in Columbus recently, visiting the plants of the Hocking Valley Products Co., at Greendale, and of the Straitsville Impervious Brick Co., at Straitsville.

Art Ware Manufacturer Dies

George F. Young, aged 57, president of the Roseville (Ohio) Pottery Co., who resided in Zanesville, died at his late residence recently following a year's illness from cancer. He was widely known in the pottery industry because of his successful manufacture of art wares.

George H. Knowles Dies in Brooklyn

George H. Knowles, Trenton, N. J., well-known in the clay importing branch of the industry in this district, died recently at the Brooklyn Hospital, Brooklyn, N. Y., after a short illness, aged 65 years. He is survived by a wife, a son, and a daughter, as well as a brother, Frank M. Knowles, East Liverpool, Ohio.

Well Known Brick Man Taken Suddenly

J. D. Pratt, for many years connected with the brick plants of Menomonie, Wis., died suddenly at his home in that city on April 15. Mr. Pratt for five years had been superintendent of the Wisconsin Red Pressed Brick Co. and for ten years previous to that, held a similar position with the Excelsior Brick Co.

John Cooper Back in Face Brick Game

John Cooper, formerly secretary of the Columbus Brick & Terra Cotta Co., which suspended operations at its plant in the Hocking Valley several years ago, and who has been in other business since that time, has again entered the brick business having been made manager of the Columbus office of the Thomas Moulding Brick Co. He succeeded John P. Turpen, who has gone with the Moores-Coney Co., of Cincinnati. Mr. Cooper is well known in the face brick game in Ohio, having been with the Columbus Brick & Terra Cotta Co. for about six years. He reports a rather quiet market for face brick, but that the demand for mastic flooring is exceedingly brisk. The company operates the plant of the Straitsville Impervious Brick Co., at Straitsville, Ohio.

New Builders' Exchange Formed

The employers' organizations in the various building trade associations of San Francisco have voted to amalgamate and

on May 1 they formed themselves into a single body under the name of the Builders Exchange. A large number of the local brick men are associated with the organization.

Brick Popular for School Building

It is said that some of the buildings which are now projected in San Francisco will be built of reinforced concrete because the brick yards could not guarantee deliveries on specified dates. Other buildings whose projectors desired brick construction are being held up because of the scarcity. This condition is particularly unfortunate as a larger number of builders have seemed to desire brick construction this year than ever before. Brick is particularly popular in school construction this year and of the scores of school buildings planned for the present year probably 75 per cent. of them will be brick, or at least part brick and hollow tile. During the past two weeks bids have been called for at least three school houses of such construction. One is a high school at Chico which will cost approximately \$360,000; a high school building at Hanford to cost \$250,000 and a high school at Hughson costing in the neighborhood of \$200,000.

Working Full Speed, But Deliveries Are Still Hampered

All the brick makers of California are working at full speed and most of them have orders ahead to keep them going for months. The Stockton (Cal.) Fire Brick Co. asserts that it has orders on hand to keep it running at capacity for the next six months. Mr. Roberts, manager of the company says that he would not book another order at present prices, and until business reaches a more settled condition buyers on future delivery must be content with prices on delivery and not on present market quotations.

The difficulty of making deliveries of brick is still hampering building in other sections of the state as well as in San Francisco. From Long Beach, Cal., comes the complaint that some new school buildings are being held up on account of a shortage of brick. The Goodyear company is building a large factory in that vicinity, and the Simmons Brick Co., which is to provide the brick for the schools and the Goodyear company has been compelled by court action to favor the rubber company.

Labor Scarcity Being Keenly Felt in California Brick Plants

While there are constantly being made minor improvements in the various brick yards of San Francisco, no additions of importance are under way, nor any in contemplation. There is plenty of business. In fact the demand is far beyond the output but the difficulty of getting labor and especially efficient labor holds down the output. This labor question is the most serious one with which the manufacturers of brick have to contend. Wages have been repeatedly advanced and while some men are attracted by the pay, many prefer somewhat less or equal pay in some industry which does not require the same effort. This condition is doubtless true everywhere in the trade, but it is believed that conditions are a little worse in California in this respect than in some other states. In the first place, the bulk of the workmen are Italians or others of the Latin race. These workmen resent the abolition of their wine thru the prohibition law, and a number of workmen have left California on that account.

Another condition which is drawing labor from the brick fields is the scarcity of labor in agriculture. This is the season when the fruit growers are calling for help to pick their crops and they are offering more money than the brick makers can pay in wages. Another matter which is undoubtedly cutting down production is the very matter of high wages. The work-

Know Your Kiln Temperatures



Follow the temperatures your men are maintaining during every hour of kiln burning, by studying the continuous chart records of

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Thermo Electric Pyrometers

They will show every fluctuation above or below the prescribed standard.

Bristol's Pyrometers pay for themselves many times over by the economies they will enable you to make.

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BURN ANY COAL

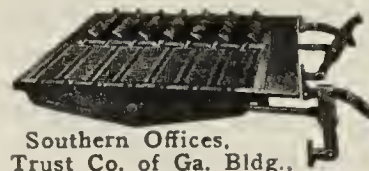
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to take care of it. Thereby they will also take care of your pocketbook.

Smooth, even surface that will not warp. No complicated parts. Easily installed in any furnace by any mechanic. Send for descriptive literature.

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Dryer cars of any size or type. Transfer cars, turntables, wheel barrows, wheels.

Send us your requirements and let us figure for you. No obligation whatever.

PETTIGREW FOUNDRY COMPANY
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They Drill Big Blast Holes

at the plant of the Kansas Buff Brick & Manufacturing Co., Buffville, Kansas.

They say:

"It has cut the labor and fuel bill about 60%, and the powder bill about 50%. It paid for itself in the first three months; it saves enough powder each year to more than pay for its initial cost."

This is interesting because it is a fact.

Write for literature on Big Blast Hole Drilling

The Sanderson Cyclone Drill Co.
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"The Chain of Double Life"

UNION STEEL CHAINS

CAST TOOTH SPROCKETS
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Over 40 different sizes and types of steel chains to fit standard sprockets 1-in. pitch and larger. Special Chains up to 1,000,000 lbs. ultimate strength.

*They've Chained Many
a Plant to Prosperity*

THE UNION CHAIN & MFG. CO.
SEVILLE, OHIO



men are tired of buying silk shirts and socks and now when they accumulate a hundred and fifty or two hundred dollars they lay off until the money is spent. This is mostly true, of course, of the unmarried men and a majority of the brick workers are unmarried men.

Higher Prices On Brick Now In Effect

The matter of scarcity and unreliability on the part of labor together with the constantly increasing wage paid has necessarily been followed by higher prices for all classes of brick during the past two or three months. It was only recently that fire brick was advanced \$7.50 per thousand. In fire brick the Stockton Fire Brick Co.'s prices are the highest, the present quotation being \$57.50 in carload lots f.o.b. factory at Stockton. Some of the other fire brick makers sell from \$5 to \$15 lower than this quotation.

Hand-molded brick have gone up recently to \$30 and \$40 per ton according to shape and size.

While face brick and tile have not advanced recently common brick was advanced on May 1 to \$19.50 per thousand delivered in the nearest zone in San Francisco. This is an increase of \$2 per thousand over the previous price. If the railroad freight rates are increased as much as the roads are asking for this price will have to be advanced again when the new freight rates become effective. Outside of this prospect the manufacturers believe that common brick will go no higher than they are at the present time.

Berlin Yards All Busy

Most of the brickyards at Berlin, Conn., are now in operation, the first brick of the season having been turned out on the last day of April. All manufacturers have orders booked well ahead and an extremely busy season is looked for.

Hartford Awards Nice Brick Contract

The city of Hartford, Conn., has awarded the contract for furnishing brick to the city for the current year to the Michael Kane Brick Co., at \$30 per thousand in 100,000 lots.

Forecloses Mortgage on Brick Plant

Judge Maltbie in the Superior court at Hartford, Conn., on April 30, directed that judgment be entered in favor of the Richard Murray Brick Co., of Berlin, Conn., for the foreclosure of the second mortgage on the brickmaking plant of Murray Brothers, Inc., at Claytons, near New Britain, Conn. The amount of the mortgage and interest was in excess of \$14,000. The court was told that the property was worth between \$50,000 and \$60,000 subject to a first mortgage with interest totaling something over \$19,000.

New 80,000 Capacity Brick Plant

A new brick plant is being established at Jeffersonville, Ind., as the Falls City Hydraulic Brick Co., this plant being midway between New Albany and Jeffersonville. The plant will have a daily capacity of 80,000 brick production, and is planned for early summer operation. The plant will have switching facilities over the B. & O., and Pennsylvania lines. Charles T. Hertzsch, of the American Car & Foundry Co., is interested in the company.

Plant Reopens After Remodeling

G. R. Ahrens, secretary of the Buckeye Clay Products Co., Belle Plaine, Ia., states that they resumed operations the last week in April after being closed down during the winter, during which time they remodeled the plant. A new nine-foot dry pan and two large conveyors were installed, all the

improvements made with a view towards greater production and the saving of labor. An excellent material has been turned out for the past three years under the direction of W. L. Jackson, superintendent, the demand being far greater than the supply. The outlook for this year is very good and the company expects to transact a large volume of business.

New Tile Machine to Increase Production

The Coral Ridge Clay Products Co., Louisville, Ky., has received another tile machine which will be set up immediately, and improve producing conditions in the hollow building tile department.

Breakdown Causes Loss of Week's Production

The Progress Pressed Brick Co., Louisville, Ky., reports a steady demand, with about a half million brick on hand, and orders booked for about three-quarters of a million. The company recently lost a week due to a break down in pulverizing machinery, having to wait on shipment of parts from Evansville.

Louisville Prices Advance

Louisville brick manufacturers have posted another advance of a dollar a thousand, due largely to the advance in coal prices. Today the leading manufacturers are asking \$21 per thousand for common brick on board cars, Louisville; and \$23.50 delivered; face brick are quoted at \$34 on board cars, and \$38 delivered; while hollow tile is quoted at 40 per cent. off universal list on board cars, and 30 off delivered.

Embargoes Tying Up Louisville Shipments

J. H. Bell, of the Louisville (Ky.) Fire Brick Works, reported that due to embargoes April shipments were only thirty per cent. of what they should have been, and that the company is holding up large shipments awaiting withdrawal of embargoes. Demand is good and no trouble is experienced on that account, as railroads and steel mills are buying nicely. Louis Ernst, vice-president of the company, is back again after a lay-up of two weeks resulting from injuries received in an auto smash. Mr. Bell has returned from a business trip to the East.

Kentucky Building Operations Good

Building operations in Kentucky are good as a whole, and the brick manufacturers are being steadily pushed in supplying the demand. The jobbers report that they are securing very fair shipments from the Southern Indiana and Illinois manufacturers, and some small shipments out of Ohio but that practically no shipments are coming from Pennsylvania or the East.

The percentage of frame construction this year is running large, but brick veneer construction is included in frame construction reports, it not being kept separate, which makes it impossible to get a very definite record of veneer construction. There is a good deal of expensive garage building going on, in which fine qualities of face brick are being used, and numerous industrial and commercial improvements.

Efforts to pull an outlaw strike in the Louisville freight yards toward the end of the first week of May, were killed, and everything continues serene as far as local traffic is concerned. If the northern and eastern embargoes were suspended traffic as a whole would be in good shape, except in so far as coal car shortage is forcing up prices.

Louisville Building Shows Decided Gain

Building operations in Louisville, Ky., during the month of April were not quite so heavy as during March, but at that there were 294 permits taken out for \$1,010,000 in the building

Hercules (Red-Strand) Wire Rope

Because of its unusual strength, toughness and other wear resisting qualities, it is extremely durable.

Because of its great durability it is safe and economical.

Established 1857

**A. Leschen & Sons
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St. Louis**

New York
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By giving burners an accurate control over temperatures, and helping to prevent useless shoveling of coal, Price Pyrometers in many plants are saving tons of coal. These instruments have repaid their first cost long ago.

There are other important advantages in using Price Pyrometers. We will be pleased to explain these advantages to you in detail. Ask us. Catalog on request.

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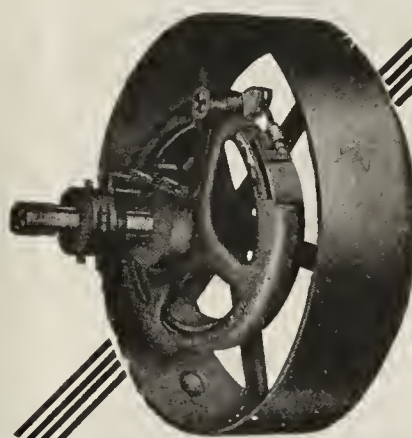
Price Pyrometers



Simple— Satisfactory

One lever controls it; one screw adjusts it—that's the simplicity of operating a Caldwell Friction Clutch.

There is nothing complex about the Caldwell. Built on exactly the same principle as your automobile brake (Raybestos-lined), it transmits all the power you give it evenly and easily.



Send for Catalogue
W. E. CALDWELL CO.
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400 E. Brandeis St., Louisville, Ky.

Caldwell
FRICTION
CLUTCHES

STANBRIK

Patented

Hollow Interlocking Brick.

A face brick and a backing all in one.

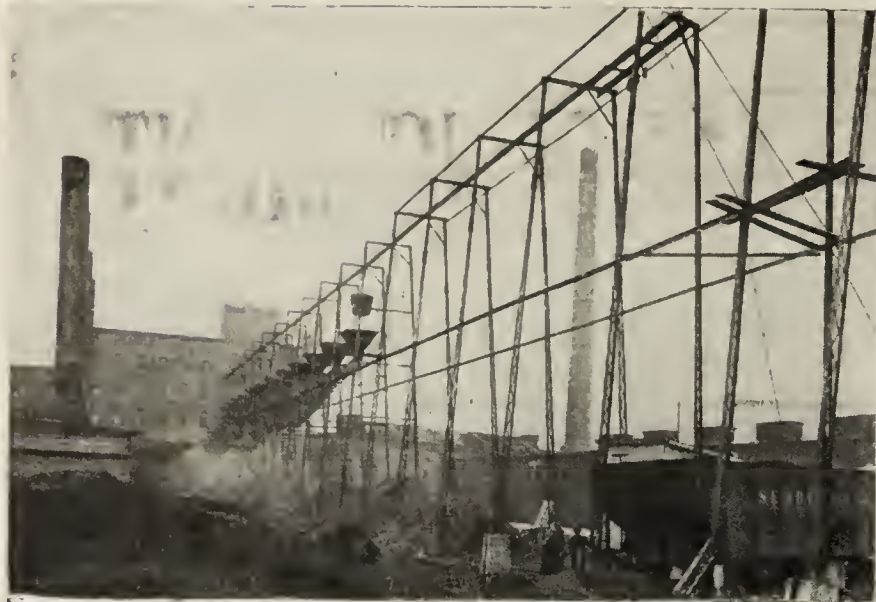
Non-continuous mortar joints.

Have the appearance of solid face brick.

License granted to manufacturers in United States & Canada.

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Godfrey System

will save its cost in a very short time, in cutting the cost of handling your coal. It also permits you to lay in a stock against threatened shortage. Write for information.

Godfrey Conveyor Company
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The MINTER SYSTEM of Continuous Burning Down Draft Kilns

Speeding up Production of Face Brick these days is necessary in order to supply the demand.

Coal is very scarce—Hard to get. All indications point to a general shortage for some time. The coal you can get must be utilized to the best advantage.

Would it pay you if you could burn more brick—a few million per year—with the coal you can get?

It can be accomplished by the continuous system of burning on your down draft kilns. Foremost is the MINTER SYSTEM—Because WE HAVE COMPLETE CONTROL, guaranteeing No. 1 ware production.

Let us show you how.

The Flint River Brick Company
ALBANY, GEORGIA

department alone, while total permits issued by the City Building Inspector's Office, and including electrical, sign, plumbing, and boiler permits amounted to \$1,199,442, there being 1049 of them.

In March the building department issued 263 permits, valued at \$1,114,500, and total permits issued were 990, for \$1,306,893. In number of permits April led March, but the value was slightly under March.

The April record shows 924 building permits, \$1,010,100; 312 electric permits, \$44,894; 200 plumbing permits, \$65,088; twenty-nine sign permits, \$5,705; four elevator permits, \$4,580; ten boiler permits, \$8,075, making the grand total of 1,049 permits, costing \$1,199,442.

NATURE OF PERMITS

In the building department there were permits for twenty-nine frame repair jobs, \$9,600; twelve permits for brick repairs, \$3,750; seventy-two frame additions, \$35,600; thirty-three brick additions, \$16,650; thirty-seven miscellaneous frame permits, \$6,350; eighteen brick miscellaneous, \$12,600; forty-three frame dwellings, \$259,600; seven brick dwellings, \$54,000; one frame church, \$5,500; two brick churches, \$115,000; one frame factory, \$3,500; six brick factories, \$172,500; one brick office building, \$40,000; one brick theater, \$40,000; two brick stores, \$100,000; two frame warehouses, \$2,600; three brick warehouses, \$175,000; fifteen frame garages, \$4,500; nine brick garages, \$43,350, making the building total of \$1,010,100.

Building permits for the first four months of the year were 875, for \$3,331,460. General permits were 3,378, costing \$3,948,968.

RECORD FOR 1920 GOOD

The record for the first four months is only \$52,000 shy of having averaged a million a month, which is certainly a most excellent showing. If building operations are continued at this clip the 1920 season will set a new record both in number of permits and value.

Comparing the first four months of 1919 shows a big gain. In 1919 there were a total of 648 building permits, costing \$626,011, and 3,205 general permits, costing \$956,857. Building permits alone show a gain of over \$3,000,000 over the same period of 1919.

Will Operate After Two-Year Close-Down

The so-called McDonald yard of the Brooks Brick Co., located on Chamberlain Street in Brewer, Me., is to be opened this season for the first time in two years. The property is now being cleaned up and put in readiness for operation. The plant will be in charge of Waldemar Littlefield and will make water-struck brick.

Advance in Price of Floor Tile

The Norton Co., of Worcester, Mass., has announced an advance in the price of all sizes of both floor and safety stair tread alundum tile in the standard shades and white from \$1.25 per square foot to \$2.50 per square foot. In the notice announcing the increase the company explains that it has been made necessary by the increasing cost of manufacture.

Boston Brick Business Improving

Frequent orders for brick in lots ranging from 1,000 to 100,000 are reported by Boston brick dealers in increasing numbers, making the total business of fairly good proportions. The freight congestion has delayed shipments from the yards, but conditions are improving daily. Prices have varied somewhat during the past few weeks, but the most

common figure is \$30 per thousand delivered on the job in Boston, Mass., or the immediate vicinity.

Hard Pressed to Keep Up With Demand

St. Louis brick manufacturers are being pressed to keep up with the demand for brick. It is said that a number of manufacturers did not heed warnings that brick would be in big demand and consequently were caught short when the building season opened. Other concerns are hampered by the shortage of labor and many are having trouble getting sufficient coal at all times. Despite this condition building in St. Louis is far from what it was expected to be at this time. A good number of projects were delayed by the recent hod carriers' strike and the new \$1.25-an-hour wage for bricklayers is said to have much to do with holding off building despite the acute demand for construction. This one item alone has boosted big jobs thousands of dollars in the ultimate cost.

Will Erect Only Brick Dwellings

The St. Louis Home and Housing Association has 118 brick dwellings in the course of construction and others are being started periodically in lots of 20 or more. Early in the week beginning May 3, the first buildings were sold by the association for prices ranging from \$7,000 to \$9,000. Hundreds of requests for houses are filed in the office of Nelson Cunliff, manager of the association. After some delay it has been decided to erect all the association dwellings of brick and none of concrete. Questionnaires were sent to prospective buyers to determine the popular choice, it then being the intention of the association to erect a large number of concrete dwellings. The requests for concrete construction were so few that the plan was entirely abandoned. The association is still acting as its own general contractor on all its tracts. Six bids were refused recently for the erection of 22 homes on Maffit Avenue. While it was the original plan to sell the dwellings at the approximate rate of \$1,000 a room the price has advanced considerably due to increased wages for bricklayers, according to Mr. Cunliff.

St. Louis Road Work Greatly Hampered

Scarcity of labor, cost of material and transportation delays are hampering the work of road building in St. Louis County, Mo., where it had been hoped to do, this season, a large part of the work authorized under the \$3,000,000 road bond issue of 1916. One of the present elements of difficulty is getting brick and rock to the work. While there is no shortage of brick, transportation is such that the greatest part of hauling is thrown on trucks and teams. Trucks are at a premium in this district and cost from \$25 to \$50, and in some cases \$75, a day. Quarry owners can supply but a little crushed rock at a time, because of the shortage of labor. Freight delays, due to yard strikes and high freight rates, in some case amounting to one-third the value of the material, are another difficulty, and these things, it is said, have combined to discourage contractors from undertaking road work.

An instance of this apathy on the part of contractors was evidenced recently when bids for two street building projects were opened. It was found that only one bid had been received on each of the projects. Both were from St. Louis contractors and were within the estimate. They are now being considered and probably will be awarded. County Engineer Elbring said that because of the lack of bids for the construction of a number of highways, the county was finding it necessary to abandon the contract plan and handle the work directly thru the Highway Department, buying material and hiring men for itself and in many cases, furnishing transportation facilities for the hauling of the material.

ANNOUNCEMENT

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Headquarters will be located at
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*Where we will be pleased
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"America's Leading Ceramic Material House"



We Are Dryer Car Specialists

The more dryer cars we build and the larger number of satisfied customers we have, the more confident we are of satisfying you.

Why not write us for designs and estimates today?

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**Enormous Profits
Can Be Realized**



manufacturing Flower Pots, Sleeves, Nozzles, Insulators, etc.,—if you have the right kind and dependable moulding machine.

The reason for the success of these machines is because they have speed, turn out ware that is better in quality and uniform in the moulding, and they require only unskilled laborers to operate them.

On these points are based your profits in the specialty business.

Send us a sample of your clay with your inquiry.

BAIRD MACHINE & MFG. CO.
265-69 Jefferson Ave., E. Detroit, Mich.

HAULING CLAY BY THE "MULE POWER" ROUTE IS NO MORE

Increase Production demands rapid and more efficient hauling methods with an elimination of labor and rehandling costs.

The BURTON GASOLINE AND KEROSENE LOCOMOTIVE

assures you of a power unit that will stand the severest treatment received in clay plant yards and pits.

Durable, Dependable and Easy to Operate. No coal or steam required. Forward and reverse at any speed. No gear differentials or clutches. Always Ready.

Ask for our latest catalog of the BURTON LOCOMOTIVE

The Burton Engineering & Machinery Co.
Cincinnati, Ohio



"Hauls It Economically"

Newly Incorporated Company

Articles of incorporation were filed by the Midland Brick & Tile Co., with Robert W. Findlay, Charles S. Ferrier, Wm. Lavelle and Roy W. Turner, all of Billings, Mont., as incorporators. The company is capitalized at \$50,000. The company is moving machinery and equipment to Forsyth to manufacture brick in the former Zeb Tart brickyard at that place.

✱ ✱ ✱

The Electric Porcelain Mfg. Co., New York Avenue, Trenton, N. J., manufacturer of high-grade electrical porcelain specialties, has inaugurated construction work on a new brick kiln shed at its plant on Pennsylvania Avenue. The structure will cost close to \$7,000. The company will also build a one-story clay shed on New York Avenue.

✱ ✱ ✱

Carborundum Co. Gets Didier-March Plant

The Carborundum Co., of Niagara Falls, N. Y., has acquired from the Alien Property Custodian the plant formerly owned and operated by the Didier-March Co., at Perth Amboy, N. J. The plant will be taken over at once and converted to the manufacture of a complete line of Carborundum refractories which are now giving such exceptional service in a wide range of high temperature furnace work.

The principal business of the Didier-March Co. was the manufacture of special refractory clay products and practically all of its equipment is well adapted for the processes of the manufacture of Carborundum refractories.

Face Brick Men Meet at Columbus

A meeting of the red group of the Ohio Face Brick Manufacturers' Association was held at the Deshler Hotel, Columbus, May 12, with a good attendance. F. A. Hoiles, of Alliance is chairman of the group. Conditions relative to shipping were the principal topic of discussion.

Drain Tile Men Get Together

A special meeting of the Ohio Drain Tile Association was held at Lima, Ohio, May 12 and 13, to discuss matters connected with the manufacture and distribution of drain tile. Shipments of drain tile are being held up to a large extent by the railroad strike and embargoes, and farmers are clamoring for deliveries.

Will Turn Out 11,000 Tile a Day

Production of tile at the Murray plant of the Independent Brick & Tile Co., Cleveland, Ohio, was to start during the week of May 10, according to announcement by President Herbert F. Geist. The initial output will be about 11,000 tile a day, thus removing the tile shortage, report admiring friends of the optimistic Mr. Geist.

Defeat Tax Ordinance

The proposed occupational tax ordinance, which put a tax on both wholesalers and retailers in the clay products industry was defeated at a recent meeting of the Columbus city council. The tax on both wholesalers and retailers was based on the number of employees and ranged from \$25 to \$300 yearly. The ordinance was modeled after that in force in Cincinnati, Ohio.

Architects Busy on School Plans

One of the bright spots in the brick industry in Ohio is the large number of school buildings which have been projected. Some of the projects have reached a point where contracts

have been awarded and where figures are being taken. Columbus architects are busy on school plans and specifications and at least thirty are now in process of being figured or the plans drawn. Many of the projects run to \$300,000 and \$500,000 in value. The larger number of the buildings, however, run to about \$75,000 to \$200,000 in value.

Long List of Contracts to be Bid on May 28

After a lull of about a month when engineers of the department were making re-estimates on work pending, the Ohio Highway Commission has again started road work. A long list of contracts are to be bid on May 28, among which are a brick job of 5.068 miles in Champaign County; a job of .84 miles in Franklin County; 2.59 miles in Hamilton County and 1.21 miles in Jefferson County. At the former letting only a few bids were received because of low estimates on the work.

Closes Nice Deal for Face Brick

The Columbus (Ohio) Fire & Face Brick Co., of which E. C. Howard is manager, has closed a deal to furnish 150,000 additional brick from the plant of the Webster Brick Co., at South Webster, Ohio, for an apartment house at Atlanta, Ga. He sold about 200,000 thru V. H. Kriegshaber & Son, of Atlanta, to the builder of the apartment who has decided to enlarge the building before the work has been started. Mr. Howard reports that shipping to southern points is not hampered a great deal by the switchmen's strike. Shipping in the middle states, however, is held up because of embargoes resulting from the strike.

Factory Construction Uses Up Ohio Commons

The strongest feature of the brick trade in Central Ohio territory is the demand for common brick. Continued rains, which prevailed up to several weeks ago held up the manufacture of mud and shale brick and as a result there was a marked scarcity. Outside supplies were called upon and a considerable number were shipped into the city. A number of jobs which were going forward were held up because of inability to get a sufficient supply of common brick. Prices are higher than formerly. Common brick of good quality delivered on the job are quoted from \$25 to \$30 and in one case even higher. There is a lot of factory construction which is taking an extra supply of that sort of brick.

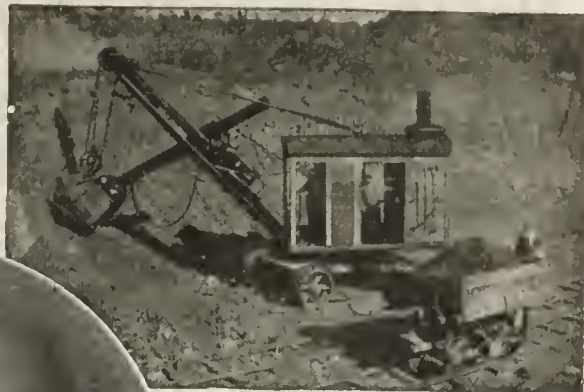
Charters Boat to Deliver Tile

For the first time in the history of the brick and tile industry a special ship has been chartered in order that material might be moved from the city of production to the city of consumption. The Denison Interlocking Tile Corporation, Cleveland, Ohio, has just completed delivering 60,000 interlocking tile at Detroit, Mich., where a huge building job in connection with the construction of the Wills-Lee Automobile Co., threatened to be held up. The boat was sent down light, material was hauled to the dock here, loaded in a day, and sent back, where trucks were waiting to take the material to the job. The move was cooperated in by the Waldbridge-Aldinger Co., contractors in charge of the automobile plant operation.

Cleveland Tile Setters Stop Work

Tile setters in the Cleveland, Ohio, district have stopped work, some union officials claiming against the ruling of their union, on the ground that they are not receiving pay equal to or better than workers in other branches of the building trades. The tile setters signed an agreement last February, to take effect May 1. This was for \$1 an hour. Now they want

ERIE Shovel
owned by
Jackson-
Bangor Slate
Co., Pen Ar-
gyl, Pa.



"Very Economical"

"During the past year we have moved approximately 50,000 cu. yds. of slate shale with our ERIE Shovel. It is a wonderful machine, ideal for our work, as it is easily moved. We find it very economical and inexpensive. We are very much pleased with our investment." N.M. Male, Sec'y, JACKSON-BANGOR SLATE CO. Pen Argyl, Pa.



Serves as
Steam-Shovel
or Crane
(Clamshell)

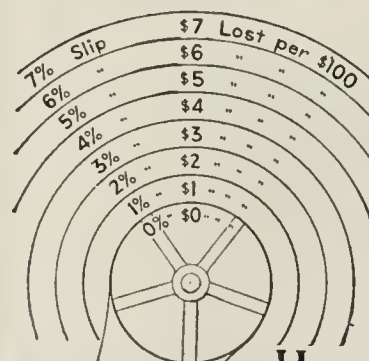
The ERIE Shovel is easy to operate. Very speedy. Built with extra strength all the way through. Gives steady service in hard shale.

Let us send you full details about the ERIE Shovel, and what it will do. Write for Bulletin B.

BALL ENGINE CO., Erie, Pa.

Builders of ERIE Steam Shovels and Locomotive Cranes

ERIE Revolving Shovels



Why not stop that money loss due to Belt Slip?

Have you ever figured your loss? Do you realize that each per cent of slip costs one per cent of the annual fuel bill?

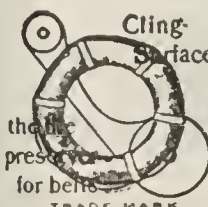
Perhaps your belt slips as much as 3%, but you don't know it. Therefore, if you are now spending \$10,000 per year for fuel, your belt slip is costing \$300 per year. Such a loss is ABSOLUTELY UNNECESSARY. It can be stopped and PERMANENTLY eliminated by treating your belts with

"Cling-Surface"

Cling-Surface keeps belts properly pliable. It is a lubricant. It is not sticky. It permits the belt to run slack or easy. Bearing friction is reduced. Arcs of belt contact are increased. The belt is waterproofed, rejuvenated, preserved.

The small cost for Cling-Surface will be returned MANY TIMES during the first year in reduced fuel cost and increased output, reduced labor cost, saving of belts, etc.

Why not take advantage of our trial offer?



The Cling-Surface Co.

1029 Niagara St.
BUFFALO, N. Y.

No. 25

JENKINS Standard Iron Body Globe Valves



Know genuine Jenkins Valves by the name and the Jenkins "Diamond Mark"—obtain them through supply houses anywhere.

Also made in Angle, Cross Check, Y, Safety and other types. They are heavier and considerably stronger than most of the standard iron body valves. Regularly fitted with Jenkins Renewable Composition Discs. Wide yokes give easy access to the stuffing boxes which can be packed under full pressure when the valves are wide open. Raised Seat Rings are of high grade steam metal composition and can be removed and renewed. Suitable for 150-pound steam pressure.

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Jenkins Valves

2153-J

Rollin's Barium Carbonate

"We find that the use of Barium not only entirely eliminates the scum caused by sulphates, but deeper and richer colors result than would be expected." So writes a clay products company in Kentucky.

It is obvious to any clay products manufacturer that Barium Carbonate added to the pug mill or to the dry pan will produce brick and tile that command a higher price. It will build up more business than an inferior product which is "off color" and marred by white streaks.

Barium Carbonate makes the salt glaze stick to sewer pipe.

We can show you how the appearance of your ware can be improved, and can give you names of clay concerns who are profiting today by the use of Barium.

Write Us NOW

Rollin Chemical Corp.
EQUITABLE BUILDING
120 Broadway, New York City

a different agreement. Fourteen employers affected insist they will remain firmly against a reopening of the schedule. Meanwhile nothing appears to be lost to the brick and tile industry itself by this attitude, as the switchmen's strike, and the consequent tying up of cars and material in transit has hit the bricklayers themselves to the extent that about 22½ per cent. of bricklayers now are out of work in this district.

Will Vote To Increase Capital Stock

The stockholders of the Harbison-Walker Refractories Co., Pittsburgh, Pa., have been asked to meet on June 23 for the purpose of voting on a proposition, just ratified by the directors to increase the company's capital stock from \$27,600,000 to \$36,600,000. If the stockholders approve of this increase, the company will declare stock dividend of 50 per cent. out of the most recently accumulated surplus, to holders of common stock of record as of July 5 and payable July 15. The Harbison-Walker company, one of the foremost refractories concerns in America, is reported to have a record business on its books. It contemplates big extensions with a view to increasing its capacity.

Sizing Up the Pittsburgh Situation

The demand for homes in Pittsburgh will compel brick consumers to contract for their requirements without delay, according to a leading contractor, who contemplates the construction of 37 two-story brick houses of ten and twelve room capacity. The city building permits report indicates that many other builders who had manifested a disposition heretofore of delaying their construction work until the price of brick would decline, have decided to build promptly. While the brick makers are sold up far in advance, they will be able to handle the new business, they say, for the reason that those who have already placed their contracts are not demanding immediate deliveries of the whole of their orders.

Another thing which manufacturers expect to give the brick market quite a stimulus is the fact that the city of Pittsburgh and Allegheny County are, together, planning to spend more than \$1,500,000 for brick to be used in the rehabilitation of streets, boulevards and approaches to four new bridges to be put up within the next six months. Council and the county commissioners have already approved the purchase of this amount of brick and it is expected that bids will be asked for within the next 30 days. The Boulevard of the Allies, which, according to plans, will extend along the east side of the Monongahela River to McKeesport, a distance of 15 miles, will require several millions of brick, chiefly of the common variety. Council is now discussing the advisability of asking for an additional appropriation of \$325,000 to be used in the repair of other thoroughfares and about ten miles of sewer, in which brick will be the chief material used.

The Chamber of Commerce is interested in the construction of about 200 houses in Pittsburgh to take care of the big overflow of families, which are being crowded in tenement houses and living in tents. It is a conspicuous fact that nine-tenths of the building plans in the Pittsburgh district call for brick and backing up tiling. Brick makers say they look forward to the greatest era of prosperity in the history of the industry. They have for some time believed this era of prosperity was approaching, or, in fact, well underway, but a fortnight observed a disposition on the part of builders to delay their plans until the market comes down.

There has been no material change in prices in the Pittsburgh district for several weeks, but many makers maintain that, while prices will react somewhat, a material change in quotations is not expected; on the other hand, there are others who believe that something like a 20 per cent. break in the market will come, because, they say, there are more people getting into the brick and tile making business today than

ever before, and this, naturally, is causing a material increase in the supply.

New Incorporations and Changes in Canada

The Ridge Coal & Brick Co., Newcastle Bridge, N. B., has been incorporated with a capital of \$600,000.

After being closed down for the past two years owing to war conditions, the Frontenac Floor & Wall Tile Co. has resumed operations.

The Caledon Brick Co., Ltd., Toronto, has been incorporated with a capital of \$100,000 by Robert C. Bustard and others, to manufacture and deal in brick and other building materials.

R. H. Hamley, Bowmanville, has sold his brick yard and the complete manufacturing equipment to Messrs. John W., Hamblet T. and Albert E. Hiscock, and Thos. F. W. Bassinger of Coburg. The purchasers are three brothers and a brother-in-law, all being experienced brick manufacturers. The property consists of fourteen acres which contains a fine red and white clay bank with an unlimited supply of clay. The plant has been in operation for thirty-five years, first by the late R. D. Hamley and later by his son R. H. Hamley, until three years ago. The new firm is making extensive alterations and improvements including the installation of an electric motor for operating the machinery. In addition to red and white brick, tile in various sizes will be made. The output will be fifteen thousand per day. The new firm will be known as Hiscock Bros. & Co.

Best Savers Make Best Workmen

Regular savings and safe investments on the part of employees which naturally have a definite cash value to the workers themselves also have a definite cash value to the establishments by which those workers are employed. Conclusive proof to that effect is furnished by a recent letter from H. S. Taylor, secretary of the War Savings Society of the New York Shipbuilding Corporation at Camden, N. J., to the Savings Division of the Treasury Department.

In one department alone, he declares the habit of saving and investment in government savings securities has meant the difference between a complete labor turnover every two weeks and a stable steady force without change. Mr. Taylor writes:

"In our lumber shop the labor turn-over was almost one hundred per cent. every two weeks. The War Savings Secretary for that department, which by the way was made up entirely of negroes, paid little or no attention to them. His girl friend happened to be secretary for another department showing very good results. To compete with her he urged all the colored men in his shop to become savers. For a period of months there has been almost no change in the working force of his shop as a result of his efforts."

Of the relation of savings to efficiency, Mr. Taylor says: "It often happens that the strongest and best departments in the yard are made up of the best savers. An example is our Joiner shop. In the plate and angle shop, a department of five hundred men containing many foreigners, a canvass was made to find out which men desired to take out citizenship papers. Of all those who wished to take out first papers, every one was saving money by buying War Savings Stamps while not a man who had refused to take out first papers was buying War Savings Stamps."

* * *

"An old-time commercial traveler encountered over four hundred ticket agents before he received one 'thank you.' It's all wrong."

* * *

"A dynamo multiplies power. A 'thank you' is dynamic."

Perforated Steel Screens

Of Every Description

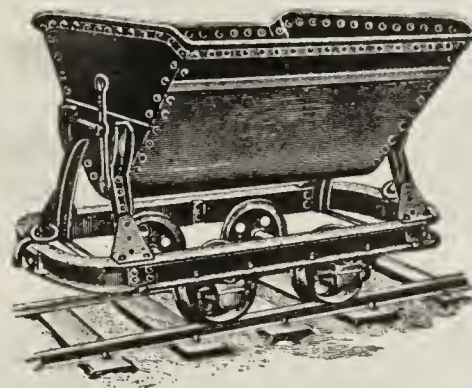
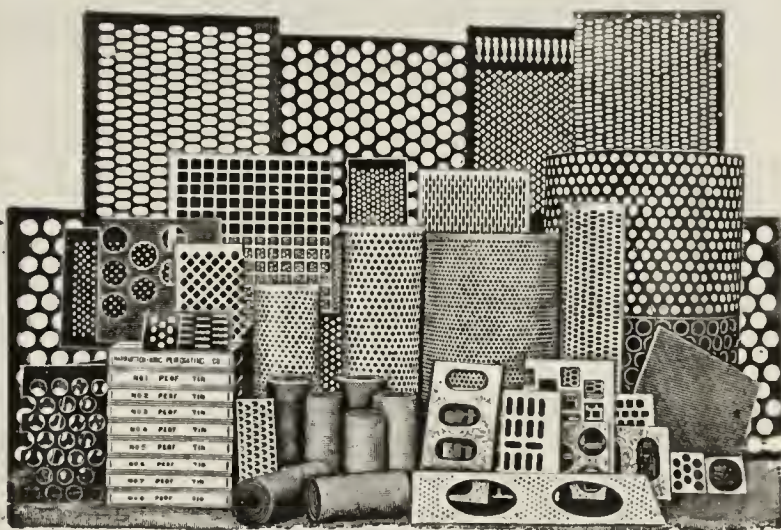
For Screening Clay, Shale, Sand,
Gravel, Stone and Cement

No Other Screens Will Give You Equal Capacity,
Durability and Satisfaction

The Harrington & King Perforating Co.

635 N. Union Ave., Chicago, Ill.

NEW YORK OFFICE: 114 Liberty St.



Prompt Shipment

We can ship promptly any of our standard types of platform cars, dump or dryer cars, dump buckets, etc.

If conditions at your plant require special designs, we are prepared to submit plans and specifications, and to fill your orders promptly. But act now. Catalog No. 8c is yours for the asking.

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We specialize in steel car wheels





Are The Last Word In Scientific Clay Products Drying

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Waste Heat
Steam (Direct or Indirect)
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QUESTIONS

A Two Cent Stamp May Bring
You Advice That Will Stop
a Waste, Improve Your Ware
or Lower Your Production Cost

Address all communications intended for this department to "Editor Questions and Answers," care of "Brick and Clay Record," Chicago.

Wants to Build Additional Kiln Capacity

936. *Quebec—We are unable to burn all of our brick because of our continuous kilns not having sufficient capacity. We are investigating now the round down-draft kiln to burn common brick but have been told by the superintendent of a large plant in Canada that it takes three times as much coal to burn brick in a round down-draft kiln as it does in a continuous kiln of our type. If this is true it would require 750 pounds of coal per thousand inasmuch as we are able to burn brick in our kiln with 250 pounds of coal per thousand. Our continuous kiln is a sixteen chamber coal fired kiln with eight chambers on each side, each chamber holding 29,000 brick. The fire passes thru five arches of eighteen by thirty inch dimensions. Slack coal is poured in from the top of the kiln. We do not know the patentee of the kiln but would be glad to have you tell us if you recognize the type.*

We are desirous of increasing our capacity twenty thousand a day and we would appreciate any information you can give us as how best to do this.

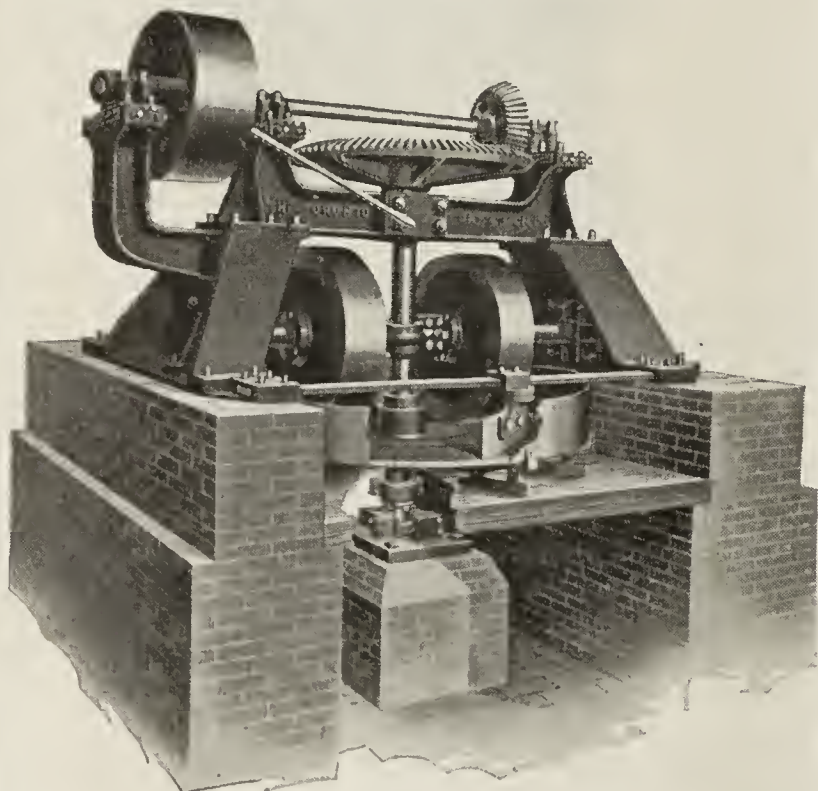
The questions that you put forth in your letter are very formidable, and it is hardly possible to give you a complete answer. However, we believe that the following information should give you considerable aid.

It is true that the ordinary down-draft kiln whether round or rectangular does consume considerably more fuel than a continuous kiln. The amount of coal required per thousand brick averages on a larger number of plants about thirteen hundred pounds.

By using forced draft on the kilns one firm has been able to cut down their fuel consumption to about six hundred pounds per thousand brick which is a very favorable showing. The Minter system of burning which employs round down-draft kilns has a method of continuous burning that reduces considerably the fuel consumption. It is claimed that in some cases brick can be burned with as low a quantity as 250 pounds of coal per thousand brick. A plant in Canada has been able to burn their brick using five hundred pounds of coal per thousand brick. This system is installed in a series of seven to nine kilns to a battery. By regulating the number and size of the kilns it is possible to regulate to some degree the daily capacity.

We believe that the best solution to your problem would be the addition of one or two more chambers, installing a fan if necessary to take care of the draft. In the state of Missouri there is a continuous kiln seventeen chambers in length but this particular kiln happens to be fired with producer gas and has a fan draft. Nevertheless, it shows the possibility of making a larger kiln. Also in Nashville, Tenn., there is a kiln of a type similar to yours which is twenty-six chambers in length and is burning brick very satisfactorily and economically. Considering the success in this instance, we feel that it is quite safe for you to add two or more additional chambers to gain the increased capacity you desire. We do not know for sure who the patentees of that particular type of kiln are, but if we might

MEANS GRINDING PANS



Type "B" Dry Pan, 9 ft or 10 ft. sizes

The rugged construction of our Pans insures long and efficient service with the least expense for upkeep. A large list of satisfied customers is evidence that our Pans are

BUILT RIGHT

We solicit your inquiries

Toronto Foundry & Machine Co.
Toronto, Ohio

and ANSWERS

Best Authorities in Every Clay working Branch Are Called Into Consultation—Their Advice is Free to You, Thru These Columns

Should a reply be desired by letter, send a stamped and addressed envelope with your question, and it will be answered promptly.

hazard a guess we believe that the design is of the Dunn type.

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Wishes to Change Style of Brick

945. *Quebec—We are shifting from the soft mud process to the stiff mud method of manufacture and would appreciate very much your advice as to the following points:*

What do you consider the best size for common brick? Do you consider it a good idea to make the brick with two, one inch holes, the advantages being to distinguish our brick from others; to lighten the brick and thus lower the cost of freight; and to replace the hollow of the soft mud brick which we think is considered important by the bricklayers, because it holds better on the mortar? Our brick will be side cut and will be made of a good strong blue and yellow clay.

The Common Brick Manufacturers' Association of America in a convention held at Columbus some weeks ago, adopted $2\frac{1}{2} \times 3\frac{3}{4} \times 8$ inches as the standard size of brick which common brick manufacturers would aspire to manufacture hereafter. There are many reasons for adopting this size. Among them is the advantage of having common brick the same size as face brick, so that a wall can be laid up more easily and look neater.

When architects draw up plans and specifications for structures to be erected in other cities, it is often necessary to make important and costly changes in the plans, because of the difference in the size of brick in various localities, and thus there is caused a great deal of annoyance and inconvenience to the users of brick that could be avoided by adopting and making standard size common brick.

The Canadian National Clay Products' Association has adopted $8\frac{1}{4} \times 4 \times 2\frac{1}{4}$ inches as the standard size for common brick. We do not know but that it might be best for you to conform to the size that Canadian manufacturers make in your locality so that all the brick will be of one uniform size.

If there are no difficulties met in manufacturing we believe that you will gain the advantage mentioned in your letter by making the brick with two, one inch holes. You will undoubtedly pursue a wise course in changing from soft mud to stiff mud brick manufacture.

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Information on Paving Brick Requirements

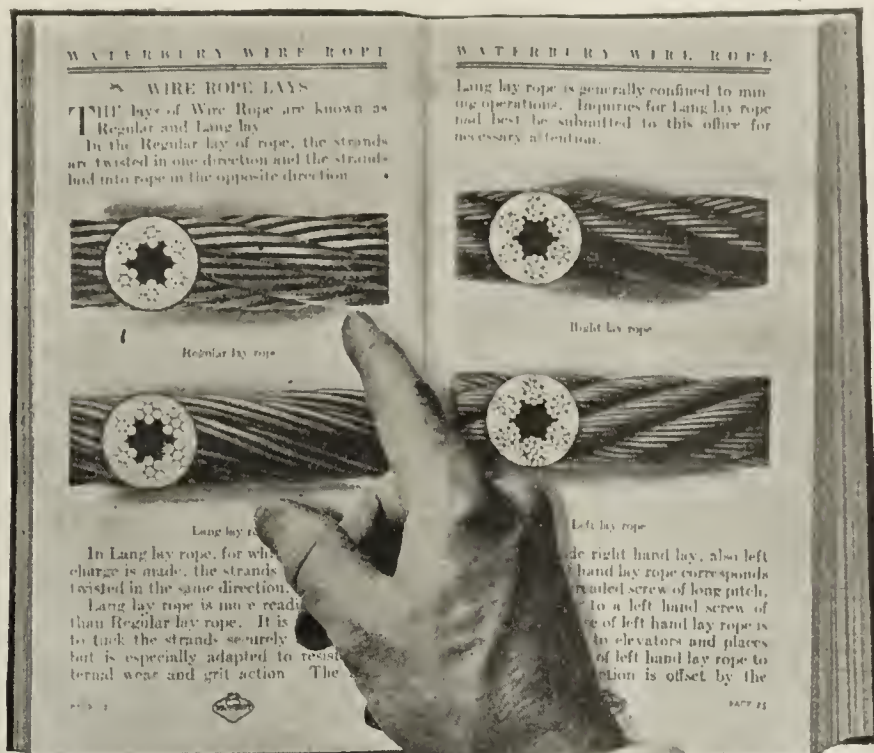
946. *Pennsylvania—Kindly give me some advise as to the following: Can I make a test burn of either paving or building brick in a small kiln say about large enough to burn fifty brick and what type of kiln would you suggest for the test?*

What heat should paving and building brick be subjected to and how long should this heat be held?

What number of cones shall I use?

What is a good analysis for a paving brick clay?

It is quite possible to make a test of either paving or build-



Suiting the lay to the use

In wire rope lays, "Warrington," "Seale," "Lang," "Left"—every variation from "Regular" lay—has a good reason for its proper use*.

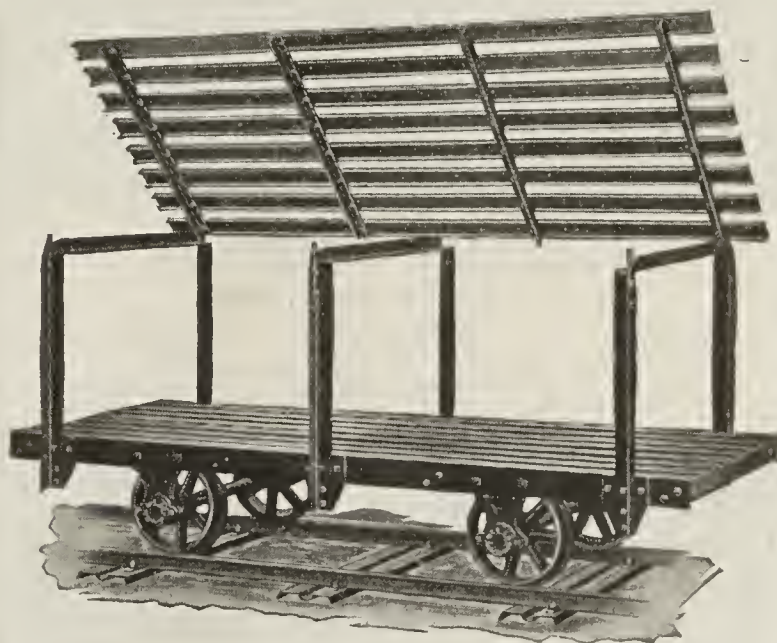
Waterbury wire rope—whatever the lay (for it is made in all of them) has the best reason for its use—quality, quality of material, quality of workmanship—the Waterbury quality that is in every rope, wire or fibre, made by the

WATERBURY COMPANY

63 PARK ROW, NEW YORK

CHICAGO SAN FRANCISCO DALLAS, TEXAS NEW ORLEANS

*See pages 14, 24, 25 and 26 of the Waterbury Rope Handbook, for details of these various rope lays and their advantages. All the information on rope you could wish for is there—and you may have a copy for the asking. (2366-W)



Lakewood Double Deck Car No. 167

The Robinson—LAKEWOOD LINE—
Dryer Cars; correctly designed, correctly
built, correctly sold.

Frank H. Robinson

Factory and General Office - - Pittsburgh, Pa.

BUCYRUS



Put A BUCYRUS In Your Plant

You can cut your costs and increase your output—you can improve the quality of your brick by obtaining a more thorough mixture from the bottom to the top of the bank.

The rugged construction and surplus power of the Bucyrus permits it to work under the most severe conditions with a high steady output.

LET OUR REPRESENTATIVE CONSULT WITH YOU

All sizes of revolving and standard railroad type shovels and dragline excavators.

Send for Bulletin B

BUCYRUS COMPANY

SOUTH MILWAUKEE, WIS.

New York,	Birmingham,	Denver,
Cleveland,	Minneapolis,	Portland, Ore.
San Francisco,	Salt Lake City	
London, England		208



ing brick in a small kiln of fifty brick capacity. The Department of Ceramic Engineering, University of Illinois, Urbana, Ill., published, some years ago, a pamphlet describing the construction of test kilns such as would serve your purpose.

Some of the clay machinery companies are prepared to make this kind of a test and we would suggest that you consider the matter of having your brick tested by such concerns before going to the expense of erecting a test kiln.

The heat or temperature that paving brick should be brought to, depends entirely upon the type of clay used. Generally, a paving brick is burned to 2,100 to 2,200 Fahr. Cones in the neighborhood of one, two, three and four would be advisable for use in such a case.

The chief requirement in burning paving brick is the burning of the product so that it becomes vitrified. Generally, building brick are burned to a temperature of about 1,600 to 1,800 deg. Fahr.

A very good book on the subject of paving brick and paving brick clays is that which was issued by the Illinois Geological Survey and is known as Bulletin No. 9. This book may be obtained by writing to the Illinois Geological Survey, Urbana, Ill.

Analyses of paving brick clays vary considerably, a typical one being silica 58.38, alumina 20.89, iron 5.78, lime .44, magnesia 1.57, alkali 5.02, and water 7.53 per cent.

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Desires to Increase Kiln Output

940. *Kentucky*—Can you give us some information as to the experience of those who have tried or are cooling down-draft kilns with fan draft? Our kiln capacity is not large enough to take care of the machine and dryer output and if we could gain a day or two on the kilns by cooling them faster we would increase the production of the entire plant.

Labor you know is rather touchy about going into hot kilns. Thus it is necessary to take that point into consideration in speeding up our kiln turn-over. The kilns are of the round down-draft type, about thirty-two feet inside diameter. Any information you may be able to give us will be appreciated.

We are not certain whether or not you mean, according to your inquiry, to take out the hot gases from a kiln by a fan and use the waste heat, or whether you mean simply blowing cold air into the hot kiln.

As for the former instance, waste heat from cooling kilns is being used by a large number of plants with very good success. By this means not only is the ware dried with the waste gases but the kilns are cooled with greater rapidity.

Several firms have also tried using a fan to simply blow cold atmospheric air thru the wicket of the kiln in an attempt to force out the hot gases. We believe that they were partially successful in speeding up the cooling of the hot kilns in this manner.

To increase your production without building more kilns, we suggest that you investigate the forced draft system of burning which has been discussed in the columns of *Brick and Clay Record* from time to time and which has not only cut down the burning time but has also resulted in a considerable saving of fuel.

The continuous system of burning by having the kilns connected with each other by means of flues has also made it possible to increase the kiln capacity without adding another kiln. Furthermore, the fuel consumption can be reduced considerably with the use of this scheme of connecting kilns.

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"Your stenographer is just as human as other folks. A 'thank you' now and then, is most befitting."

MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories
and Detailed Announcements that Our Ad-
vertisers Believe Will Interest Our Readers

Announcement by George A. Balz

George A. Balz, mechanical engineer, of Rahway, N. J., announced his entrance into the engineering and construction field, thereby continuing the business formerly conducted by the Didier-March Co., of Perth Amboy, N. J., that company being now in process of dissolution, by order of the Alien Property Custodian, under Mr. Balz's direction.

It is the intention of Mr. Balz to specialize in the design, construction and operation of continuous car tunnel-kilns, with particular reference to the Didier-March tunnel kiln which must be regarded as the pioneer kiln in this country. Mr. Balz has acquired the exclusive rights to design and build the Didier-March kiln and brings with him the entire engineering organization of the Didier-March Co. with its long years of experience.

Mr. Balz has been connected with the Didier-March Co. since its organization in 1906, and has successively filled the position of superintendent of construction, contracting engineer, plant manager, assistant to general manager, and since 1912 vice-president and general manager up to the time of the seizure, by the Alien Property Custodian, of the company's business in 1918. Since that time Mr. Balz has continued as general manager and will serve in that capacity pending the winding up of the company's affairs.

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Convention for Sales Department Members

Members of the motive power battery sales department of the Electric Storage Battery Co. gathered recently in Philadelphia for their annual convention. Sixty men were present from points as far west as Denver, as far south as Atlanta and on the north from Canada. The sessions were given over to a close study and review of the storage battery possibilities in connection with the propulsion of electric street trucks, electric industrial trucks and electric mine locomotives.

The convention was held in the Green Room of the Bellevue-Stratford, April 29, 30 and May 1, and was called to order by H. B. Gay, acting sales manager of the Electric Storage Battery Co. With the beginning of the first business discussion, W. Van C. Brandt, sales manager of the motive power battery sales department, presided as permanent chairman.

"Ironclad-Exide" batteries are well known to many clay products manufacturers who have been using them in their industrial trucks for several years.

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Expansion of Schaffer Company

The Schaffer Engineering & Equipment Company, to provide for the expansion of their business and to obtain ample plant facilities, has sold a large block of its capital stock to the Fawcus Machine Co., of Pittsburgh.

The Schaffer company's processes, engineering achievements and line of machinery, including poidometers, hydrators, coal injectors and screens, need no further comment at this time. The rapid growth of their business necessitated better manufacturing facilities and assistance in handling the natural growth of this business.

The Fawcus Machine Co., manufacturers of gears and special types of machinery, with large plants at Pittsburgh and Ford City, will build all machinery required, while the inventive genius of J. C. Schaffer and the thoro understanding of their customers' needs by Waller Crow, will be backed by the active interest which the officials of the Fawcus Machine Co. will take in the Schaffer company.

This consolidation places the Schaffer Engineering & Equipment Co. in position whereby they will have unlimited production facilities, and from this time on they will be able to take care of all orders offered them for the prompt shipment of poidometers to clay products plants.

"The SSS Special" Automatic Soft Mud Brick Machine



WE manufacture the most complete line of Soft Mud Brick Machinery in the world and can meet the requirements of any size yard, from the smallest to the largest. Let us quote you on your new machinery.

The Arnold-Creager Co.

New London, Ohio

THWING

HIGH RESISTANCE MULTIPLE RECORD

PYROMETERS

in
Brick Plants



Typical Location and Housing for Thwing Thermocouple on a Brick Kiln

A Typical Instance of What They Are Doing

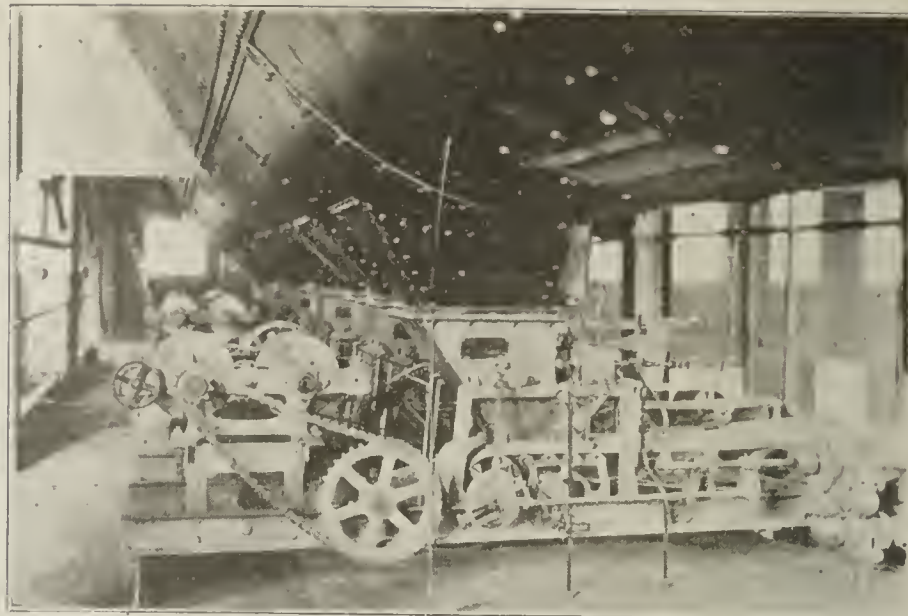
The Hocking Valley Brick Co., Logan, Ohio, has been using Thwing Pyrometers for the last two years in 30 kilns in which shale paving brick is being burned at from 2,050 to 2,100° F. The permissible range is from 40 to 50° when on high fire, but the temperature then seldom varies more than 25 to 30°.

The use of the Thwing System here has resulted in a saving of both time and fuel, and previous trouble from overheated kilns has been reduced to a minimum.

During the entire two years only one thermocouple has been renewed, this renewal being necessary only because of damage in a storm. The whole Thwing Pyrometer System has proven thoroughly reliable, has stimulated the firemen to more careful efforts, and since the extreme shortage of labor has been of the greatest value in getting good work from inexperienced men.

Equally satisfactory performances which we could cite by the hundred would not be half so convincing as a trial in your own plant. Let us submit you interesting data and costs.

THWING INSTRUMENT CO.
3347 Lancaster Ave. Philadelphia



Battery of Schaffer Poidometers

The officers of the Fawcus Co., who will take active interest in the Schaffer organization, are A. F. Cooke, whose advanced ideas in machine shop practice and production has placed him in the foremost ranks; Eliot A. Kebler, prominent in financial circles and actively identified with iron manufacturing companies for many years; and A. A. Alles, Jr., who has done much toward unifying and stabilizing costs in the largest groups of manufacturers. This combination should prove of essential and lasting benefit in view of the progressive attitude of both organizations.

The new officers and directors of the Schaffer Engineering & Equipment Co. are: A. F. Cooke, president and general manager; J. C. Schaffer, vice-president; Eliot A. Kebler, vice-president; A. A. Alles, Jr., treasurer, and Waller Crow, secretary. The company's general offices will continue in the Peoples Bank Building, Pittsburgh.

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E. G. Lewis, formerly manager of the Cleveland office of the Bucyrus Co., has been appointed central sales manager of this company, with headquarters at 662 McCormick Building, Chicago. He will succeed E. C. Hingston, who has resigned. The Cleveland office, which was opened by the company on September 1, 1919, will be continued under Mr. Lewis' jurisdiction.

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Lancaster Brick Co.'s Plant Begins Operations.

Lancaster Brick Co., Inc., started operations at their model plant located on the Lant farm, near the Harrisburg pike. The company owns forty-seven acres of good clay land, and will produce 50,000 building brick per day, yielding an annual output of over thirteen million brick.

The machinery and equipment, as well as the brick plant installation was designed by James P. Martin, manager of the Clay Working Machinery Department, of the Lancaster Iron Works, Inc., and all of this machinery and equipment was manufactured in Lancaster, Pa., by the Lancaster Iron Works, Inc. Mr. Henry Boettcher of the Armstrong linoleum plant designed the buildings and engineered their construction.

It is claimed for this plant that it is one of the most modern of its kind in the United States. The clay is mined by electric shovel and delivered to the clay preparing machinery with automatic dump cars. It is first granulated and then disintegrated to a uniform fineness preparatory to going to the brick making machinery.

The brickmaking machine has a capacity of 108 brick per minute. After the brick are formed they are automatically conveyed to the artificial dryers where the process of drying takes place. The brick that are made during the day are dried during the night on racks of steam pipe by condensation or direct radiation. The following day the brick are conveyed on cars to the brick kilns where they are set for burning.

The brick are burned in between four and five days at a temperature of approximately 1,800 degrees Fahrenheit, and are then ready for delivery to building operations. A fleet of trucks is employed for quick delivery of the brick. This brick plant is quite an addition to Lancaster's manufacturing plants, and will be a creditable factor in Lancaster's future development.

BRICK *and* CLAY RECORD

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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To

decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

Gouging the "Goat"

THE TRYING tie-up of the nation's transportation facilities—the railroads—is most deplorable. It is the freshest industrial tragedy in a blood-soaked world rocked with war, dissension and strife, and torn with almost universal sorrow and anguish.

Ask the average clay products manufacturer, "How is business?", and he will tell you he has plenty of orders at fair prices BUT he hasn't any cars—can't ship the "stuff".

We recently wandered thru the stock yard of a large paving brick plant which was like passing thru the Grand Canyon of Colorado—piles of brick in every direction, all sold but cannot be shipped—no cars.

A certain face brick manufacturer, whose name is so well known that any one familiar with the clay industry would recognize it the moment it was pronounced, **had received only two cars since the first of May up to the 20th of the month.** He is not exactly in a happy mood.

The freight situation **seems** to be improving—but slowly.

In a situation such as this, the railroads are making a drive for increased rates and they are going about it energetically. A series of hearings is now being had before the Interstate Commerce Commission during which the railroads are laying before the Commission estimates of increases in revenue needed to enable the roads to meet the transportation requirements of the country. From these figures it appears that the roads will require an increased revenue of more than one billion dollars to make up the present deficiency between operating income as now estimated and a return of six per cent. on the property investment. To meet the deficit under six per cent. would require increases on present rate revenues of 30.43 per cent. in eastern territory, 30.95 per cent. in southern territory, and 23.91 per cent. in western territory.

No doubt, impending wage demands (not in-

cluded, so it is said, in the billion dollars aforementioned), rising operating costs, soaring prices for track material and equipment, great lack of cars of all kinds, which lack must be supplied if the arteries of commerce are to function at all, all spell increased rates for the railroads. Railroad construction has been at a stand-still for four years. The government took over the carriers, used them like they never have been used before, and returned them worn out, depleted, run down at the heels, and practically bankrupt, to their former owners.

The plight of the railroads may be graphically illustrated by a story said to have blown in from the breezy West. A group of cowboys were holding high carnival in a western town. They had hired the local band for the occasion. A wise member of the party, profiting no doubt from past experience, caused the following sign to be tacked up over the "orchestra": "Don't shoot, the musicians are doing the best they can."

According to the railroad executives the carriers are doing the best they can to handle the business offered with existing equipment and personnel, and no doubt they need increased revenue to improve both.

A feature of this "drive" to raise rates is a request on the part of the railroads to clay products manufacturers in many sections of the country that they sign a circular letter petitioning the Interstate Commerce Commission to grant higher tariffs.

Clay products manufacturers are urged not to sign any such letter. The industry has a grievance against the railroads which must be settled **first.**

On June 25, 1918, the United States Railroad Administration issued general order No. 28. While this order provided for an increase in rates on other commodities of only twenty-five per cent, brick and tile were assessed not less than **sixty per cent.** This inequality with respect to a material which mounts into a heavy tonnage and in connection with which there is a minimum of breakage and consequently

greatly reduced claims for damage in transit, must be removed before the industry can listen to a plea for increased rates.

The case of the American Face Brick Association, the Hollow Building Tile Association, and the National Paving Brick Manufacturers' Association is about ready for a hearing. It is up to the Interstate Commerce Commission to recognize the justice of the brick and tile industry's petition and grant due relief from present unjust and inequitable rates.

For the Commission to do anything less would be tantamount to "gouging the goat", for in addition to paying unfair rates the industry has suffered at the hands of the carriers from a distressing lack of cars while automobiles, expensive furniture, silk stockings, and so forth, seem to have been given at least a portion of the equipment that they have demanded.

* * *

Make Vigorous Protest Against Any Proposed Stoppage of Highway Work

THE New York "Times" of May 21, reported that the Association of Railway Executives intends to urge the Interstate Commerce Commission to refuse cars and transportation for road building materials. The reason for this proposed action is given as to divert labor and materials to railroad needs.

For the past two or three years highway programs have been either suspended or seriously curtailed. Such discrimination as that proposed should not now be tolerated, particularly because of serious or impending food shortages and also because of the relief which highway transportation has been to industry in handling much traffic which the railroads could not take. Bad as the railroad situation is at the present time, it is almost certain to be worse later when still greater demands will be made for cars for crop movement. If highway construction can continue without undue obstacles, many of the roads now in process of construction will be finished in time to afford greater relief to the railways, and to meet other demands that undoubtedly will be made of them.

Under these conditions it would seem more

necessary than ever to emphasize the imperative need of continuing essential road work with all vigor instead of in any way curtailing or handicapping it.

Everyone is interested in seeing our highway programs pushed to completion. Emphatic protest should be made to the Railway Executives' Association, 61 Broadway, New York, to the Interstate Commerce Commission, Washington, D. C., and to the President of the American Railway Association, Washington, D. C., against any further obstacles to highway construction.

* * *

The Latest Ad Recruit

THE ADVENT of the fifth division of the clay products manufacturing industry into the national advertising field is an event worthy of special editorial mention and commendation.

In the "Literary Digest" for May 22, 1920, on page 3 appeared the first of a series of advertisements for vitrified clay, sanitary sewer pipe, the advertisement being signed by the Clay Products Association of Chicago and Pittsburgh, of which George H. Tefft is secretary-general manager.

The copy is unusually attractive and gives indication of considerable thought and study. The picture of the "kiddie" in his toy automobile catches the eye while the phrase "What's He Worth to His Town" arrests attention. The copy is built around the idea that a safe and satisfactory sanitary system is the best kind of insurance that this little fellow will grow into robust manhood.

The advertisement is well written, perfectly balanced and carefully planned. All in all, it is a worthy addition to the swelling list of national clay products association advertisers.

Chicago will be the mecca of ceramists in July. Plan to be with them at the summer meeting of the A. C. S.

BEAUTY *of* COMMON BRICK

Marvelous Effects Obtained After a Little Experimenting with Common Building Brick—the Story of the Creation of “Homewood Colonials”—How a Common Brick, Bringing a Few Dollars a Thousand, was Elevated to An Art Material

By Warren Griffiss

of the Baltimore Brick Co. A Talk Given Before the Recent Annual Meeting of the Common Brick Manufacturers' Association, Columbus, Ohio

BALTIMORE has been distinguished for fifty years or more for the production of a dust-finished, hand-made red pressed brick of a cherry red color, and a sand finished brick, locally termed a “sand brick,” made by hand. This pressed brick was always laid with a buttered joint not over an eighth of an inch, and carefully gauged. The sand brick was laid with joint cut top and bottom. Occasionally that was varied by using a red colored mortar.

Beyond these two examples, Baltimore knew nothing about the use of any red clay brick for facing purposes.

Now, the company I represent, has reached quite a pinnacle in Colonial brick work. We have built up a very large business and in looking back, I am simply amazed at our density in “catching on.”

AN INSPIRATION TO OTHERS

For years and years, this product of ours, which is now so much sought, we had difficulty in inducing the speculative builders to put in their cellars. Today we can't get enough of them. I thought if I would tell the story of that development, of how we “woke up,” it might be instructive to some of the rest of you and point the way to do what we have done.

The first example was the Harvard brick. I understand that the use of this brick has been prevalent up in the New England section for forty years but it didn't come that quickly with us. Well, when we looked at it, we said, “That is fine but we can't make it down here.” That disposed of the whole subject. We didn't make brick by the water-struck process and it never occurred to us that we could develop our own particular assortment of brick. That just went over.

The next thing, however, that appeared was Sayre and Fisher brick. You all know the product is strongly characteristic and individual, and that pretty well kept us from having any idea that we could do anything along that line, but they did have a dark red brick that we could fairly well match.

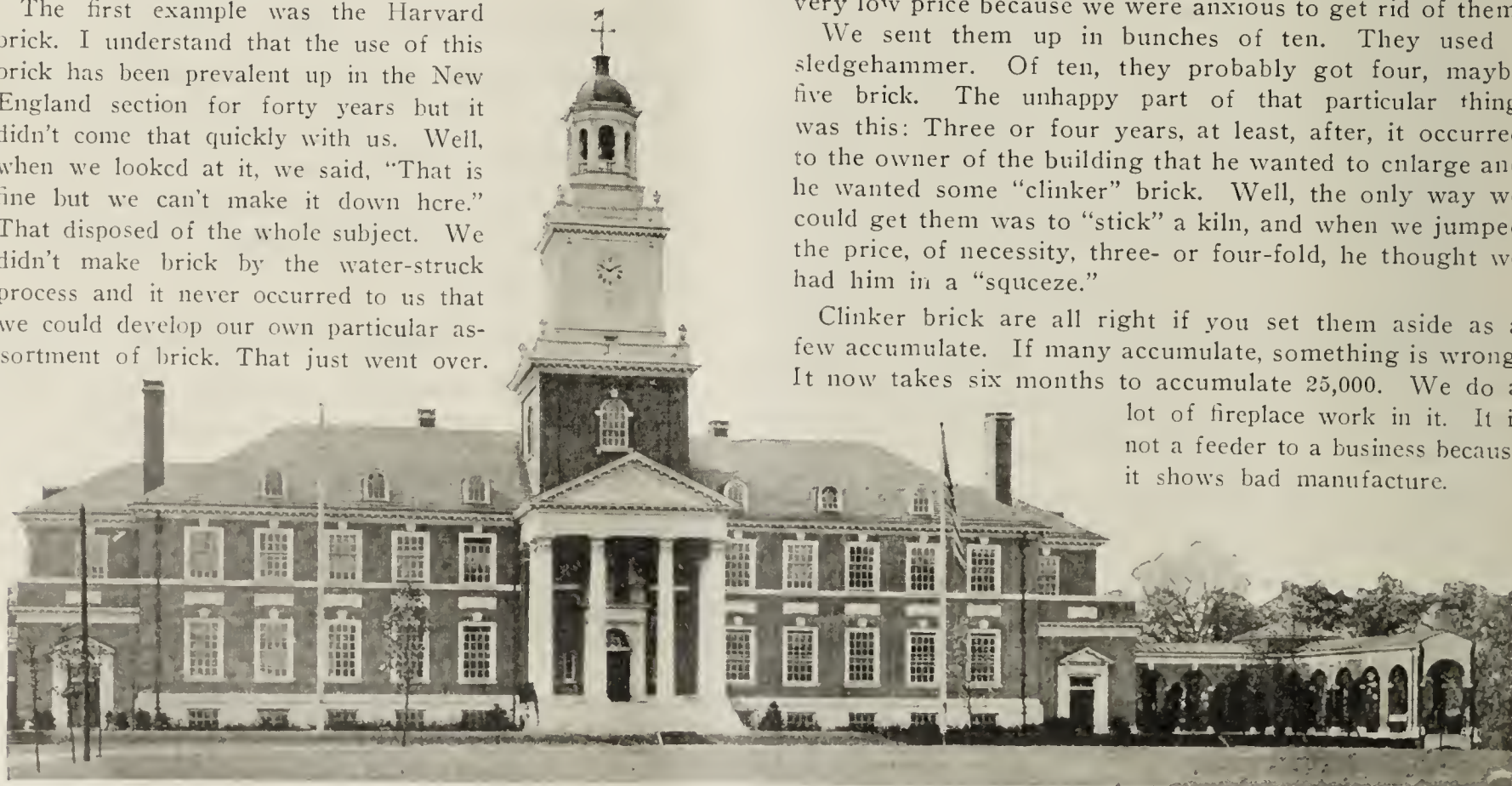
That stimulated us to at least go after some uniform color jobs, which we got, but they didn't amount to a great deal in the aggregate. We were rather wonder-struck that we got any of the business in the beginning.

SATISFYING AN ARCHITECT'S WHIM AND WHAT CAME OF IT

Another thing that occurred to us was when a very far-seeing architect went to our brickyards to look for something that he thought would suit him, and insisted on examining a “stuck” kiln. That was the first one we had at that brickyard for fifteen years. He was very much impressed with the “stuck” brick and we were very much impressed with the sale of them. We got rid of them and much to our amazement, a very wonderful job was constructed out of those “stuck” brick. We sold them at a very low price because we were anxious to get rid of them.

We sent them up in bunches of ten. They used a sledgehammer. Of ten, they probably got four, maybe five brick. The unhappy part of that particular thing was this: Three or four years, at least, after, it occurred to the owner of the building that he wanted to enlarge and he wanted some “clinker” brick. Well, the only way we could get them was to “stick” a kiln, and when we jumped the price, of necessity, three- or four-fold, he thought we had him in a “squeeze.”

Clinker brick are all right if you set them aside as a few accumulate. If many accumulate, something is wrong. It now takes six months to accumulate 25,000. We do a lot of fireplace work in it. It is not a feeder to a business because it shows bad manufacture.



The Academic Building of the John Hopkins University, Homewood, Baltimore, Md., of Which Parker, Thomas & Rice, of Boston, Mass., Were the Architects. This Structure is One of the Group Which Took 5,000,000 Brick of Beautiful Shades and Textures Developed from Simple Common Brick.

STIMULUS FROM THE FAMOUS BALTIMORE FIRE

Now, the next thing that stimulated us was the Baltimore fire. The scarcity of brick at that time made them



A Close-Up View of the Entrance to the Academic Building Which Shows the Extensive Use of Brick in the Edifice.

use what were termed in Philadelphia, red stretcher brick, for facing purposes. However, they used the flush joint, and I will tell you now, you want to remember that when you take that brick and flush the joint, you detract more than half. You can't lay it with a flush joint. I will tell you more later on why I know it.

The next thing that appeared was "Spring Garden" brick. Spring Garden is the name of a plant about fifty miles from Baltimore.

The Roland Park people had a siding on the same railroad as the plant and it was convenient, but the use of the brick was limited to Roland Park. Roland Park had in its organization some very artistic men. They saw the value of those brick which are of a very rich dark maroon color. They selected the darker shades for facing work and got some very wonderful work.

Well, that didn't hurt us very much because we thought that was Roland Park and as long as it confined itself to Roland Park, we could exist, but it commenced to "slop over" in the city and then we began to sit up and take notice.

Then the raked joint came. That really started a little movement in face brick work, but the architects were stringent on the uniformity of shade. Now, just about this time, we had rather a serious proposition confronting us. Common with all the other sections of the country, Baltimore, for years, had been selling the mass of its product without profit. It relied for the sweetener on what few fancy bricks it made, and principally sidewalk paving brick.

The cement industry, possibly, got a hold of the right people and a law was passed forbidding the construction of any more brick sidewalks in Baltimore. We did all the remonstrating we could, but it went thru. It didn't

hit us then, tho. They were doing a great deal of paving. It had been a cobblestone city. That dislocated all the curbs and for the patching along the curbs, the demand for paving brick came up for the temporary work before the improvement demanded the placing of cement sidewalks.

Another feeder we had was a special brick for sewers. It is a repressed brick that was perfectly smooth and square and was used as a liner for the inverts of the sewer. That was about running out so we were at our wits' ends to know just what to do to get something on which to make a little profit.

FURNISHING BRICK FOR A FRIEND'S GARAGE

Just about this time Mr. Fiske developed his "Tapestry" brick and the way we got into this whole subject of Homewood Colonial brick, which is the name of our very diversified mixture, was that a friend of mine was going to build quite a large garage. He wanted to keep the cost down. His architects were enthusiastic about Fiske's product. My friend asked his architects to try to give me the job. They said, "We would like to have Fiske's brick, but we haven't the money." I said, "What can we do to meet the situation?"

I never was strong on the manufacturing end of the brick "game." I started on the business end and worked from that back to the manufacturing. But, in my infrequent visits to the yard, I had seen some different kinds and color of brick. I got a bunch of strange and mongrel brick together and took them to the architects. They finally decided to try them. That first job was a mixture of soft diversified colors from the soft mud alone at that time. The only way we got that building erected was for me to go on the scaffold for days with the bricklayers.

They tolerated me with a sense of amusement. That was their first feeling—it amused them a great deal. They stood for it. There was one mistake about that job. The



This Photograph is a Splendid Near View of One of the Unusual Features of the Structure in Which the Bond and Beauty of the Brickwork Can Be Appreciated.

joint was over an inch wide cut off flush. The mortar was built up of this heavy white gravel and had a large joint in imitation of the tapestry work. For quite a while it stood

out beautifully but as soon as the dust got in, you couldn't discover any color at all. It was just a dirty dark color,—joint and all. It is a mistake to use that joint for exterior



This is Another View of the Same Building Shown in the Other Photographs and Which Portrays the Admirable Effect of the Brick in Adding Beauty to the Structure.

work. That was the unfortunate part of that. The flush joint flattens,—a recessed joint gives a texture to the wall.

TRIES RECESSED JOINT

The next thing that came up was the Women's Hospital. They had very little money so they tried to get a local brick that was cheap. I took one of the local architects up to the local garage which was then in its freshness and glory. I called his attention to the joint. He was the kind of a man that didn't want anything like the other fellow's. He evolved something new—used stiff mud brick, but recessed the joint, possibly an eighth of an inch. It was quite an effective wall, but it didn't begin to approach what we afterwards accomplished.

You see, we were getting work enough to encourage us and give us an idea that we were going to get enough face brick work to give us some profit. In the meantime, we got one very good argument and that is that we had built up an International Harvester job beside a railroad and it had been there for some years and notwithstanding it had been subjected to some trying conditions, it was as fresh as if it came out of a bandbox. It was a uniform red job, no diversity in color.

A FIVE MILLION ORDER IN SIGHT!

Then came the Homewood group. John Hopkins determined to move the university from the city to Homewood. Here was a case that whatever brick was adopted would go into that job and mean 5,000,000 brick. It was either "root, hog, or die."

I worked a year on that job, erecting panels. Here is the point: You can look at your brick and lay them up but unless you lay them up and change the color of the mortar and character of the joint and bond, you have no idea of what your brick is. We laid our panels out of the

same brick and they weren't recognizable as the same brick. I worked with the bricklayer for a year.

There was a commission of architects. Mr. Atterbury of New York was one. Parker, Thomas and Rice were on this commission. After quite a number of inspections and visits, they finally selected a panel of brick that was the most diversified in color we were capable of manufacturing. It took me two days to find 400 of such brick and two days to lay them, and yet, when they selected that panel, I undertook to furnish 5,000,000 of them. *We weren't making them.*

We burn in two characters of kiln. One is a "patent" kiln and the other an Old Dutch kiln. The effect of the Old Dutch kiln was to bring out the mineral in the clay. Our clay is full of chrome and minerals and iron, and when combined with the gases in the coal, bring out wonderful colors. The "Old Dutch" would bring out the yellows; the "patent" would bring out the black and red but the yellows would not appear to any degree.

Then, furthermore, in order to avoid the accumulation of salmon brick, when the kiln got hot, we sent men on top with asbestos shoes and hard coal screenings. Now, the gases in the hard coal brought out other colors than the bituminous coal did. We endeavored to keep the center of the kiln red. This uniform red brick had been what our trade demanded. In the corners and around the walls I found the peculiar shades and colors. We have practiced in extending these effects, and we have gotten it down. Our percentage of Colonial brick was ten per cent. I think it is pretty close to seventy now. I don't know how we do it but we do.

One of the first troubles I had, to get any effect with the brick was with some architects without artistic sense—whose only motive for using our brick was the comparatively low cost of them. Their insistence was for a uniform color, true edges, smooth surface, and so forth. In fact, everything that makes for the commonplace. You know how deferential you must be when you need business, so for a long time we were compelled to see our best effects sacrificed.

We finally grew strong enough to take a stand. When sent for on one occasion and informed that our brick were condemned and had to be sorted over, and that certain brick must be cut out of the wall, our reply was that on the first brick being cut out we would send and remove all our face brick from the premises. We informed the architect that we were vitally interested in having the job a credit to us both. That if he would just stay "hands-off" we would take care of it. Well, he did, and the result was the best job he ever had.

HANDLING THE BRICKLAYER

The other trouble that is going to confront you is the bricklayer.

To lay these brick to get the color effects, a bricklayer has to unlearn his trade. He says, "The brick does not lay that way. You are turning it upside down." You reply, "Well turn it upside down." But he will not do it if left to his own volition.

Where the bricklayer contractor was receiving a commensurate price we managed to get them to lay them more or less correctly.

In the speculative dwelling work it was customary for the bricklayer to take the contract for laying at a flat price per thousand. Speed was everything so they did not want to depart from the method they were taught. It meant loss of time. The boss bricklayer contended he was not being paid for laying them differently. We told him to see to it in the future that he was paid to do so; that in the mean-

time if he persisted in spoiling the job in hand we would see to it that he would not have a chance to spoil another job for us. That if on the contrary he would see that his bricklayers would observe our directions, we would see to it that he was snowed under with work.

His reply was to turn to his men with, "Boys get to work."

HOW BRICK ARE LAID

That Homewood group is laid with a white joint about five-eighths of an inch. The joint is pressed back an eighth of an inch and at the same time a line drawn down the center of the joint. As they press the joint back, a special tool draws this line down the center. That idea was taken from the old residences in Annapolis and was one of the things that was insisted on by Mr. Thomas, of Parker, Thomas and Rice. That was called the Homewood joint. The effect of that work is soft and has a charm and sparkle.

Then we got another job, the filtration group of buildings of Baltimore. I think there were 600,000 or 700,000 face brick in there. That brick is laid with about a three-fourths inch joint, sunk one-half inch, with dark cement. The effect there is massive, strong and dignified. If I should take you gentlemen out there and show you the two jobs, you would say that those brick are nothing alike. *They are identical.* It is almost unbelievable. It simply emphasizes what I said, it is the treatment. Until you lay your brick up with the various joints and colors of mortar, and different bonds you have no idea of what you can ac-



What Student Would Not Be Inspired to Higher Motives and Ideals Upon Entering This Impressive Brick Building Thru Such a Beautiful Entrance?

complish. Why, those twelve or fourteen panels didn't look as if made of the same brick.

INSPECTOR CONDEMNS BRICK IN THE PILE

I had another very amusing experience. We furnished innumerable public schools. These brick looked "bully" laid up, but I want to tell you common brick is com-

mon brick and it isn't pressed brick. But, the rougher the surface and the more indentation, the better the job looks. They just looked like "thunder" on the pile, tho.

I had trouble with the Baltimore city work. Every inspector condemned them when put on the job. When they complained to me, I said, "I want to see what they sent." When I saw the brick, I said, "This is all right." The reply was, "You may call it all right but we don't think so." My answer was, "Just put up twenty feet of that wall. If you are not satisfied when that is up, I will pay for the erection and tearing down." We had to do that. That is one of the troubles you are going to have when you sell common brick. They want all the true edges. As I said, the more irregular, the rougher the texture, the better the job.

THE QUESTION OF SORTING

Another point that we developed is how to get the brick delivered to the job with a uniform mixture. Now, you get your blacks and blues and yellows, but they come in spots in the kiln and you can't load them out of kiln. What I had to do was sort these strongly distinctive colors on various piles. Then the architect would go out and determine what particular mixture he desired. From these piles a composite pile is made of the brick in the selected proportions, thoroly mixed. You have to deliver these brick so the bricklayer isn't left any discretion on the job. If you are going to rely on any sorting to be done by the bricklayers, you are ruined.

Now, there is another thing that occurs with the brick clay of the character we have, which is full of minerals. The action of the elements, the action of muriatic acid bring out and accentuate the colors, and the older the job, the prouder you are of it.

LOOK AT YOUR PRODUCT WITH "SEEING" EYES

In conclusion I would simply say that I would advise that you learn to look at your product with *seeing* eyes. I am telling you that lots of you are looking at "bully" good stuff that is going out that will mean an immense profit to you.

Lay up large panels—say at least five feet square. You can't get the effect in small panels. Then, whatever you do, *avoid a flush joint.* You flatten your work and it loses more than half of its effectiveness. You must have a shadow to get a texture to your wall. In fact, unless you do, it loses all character. Then, vary your joints, both in thickness and in depth of recess, and also the bond and the color of the sand. A yellow sand and a white sand make all the difference in the world. Because, as I told you, any one of them will absolutely transform the color of a wall.

Bear in mind that your brick depend for their effectiveness absolutely on the laying. Therefore, unless you are assured on this point you must decline to accept an order. You cannot afford to have an indestructible, everlasting eyesore constructed of your material. With proper laying the result is exquisitely beautiful, with improper laying, an unspeakable horror. One of us invariably supervise the starting of a job unless it is being handled by one of our large coterie of bricklayers educated in their treatment. Most of our customers are glad to have us select the bricklaying contractor.

I hope what I have said may point the way to some of you people to salvage something that is too good to go to waste.



"Stop thinking of conditions as they were five years ago. Conditions have changed faster in the last five years than in any similar length of time in the history of the world."

EXTEND FACILITIES *for* REFRACTORIES TESTING

*Refractories Manufacturers Association Opens to Users as
Well as Prospective Manufacturers Its Technical Division
for Investigation of Clays, Minerals or Refractory Wares*

WHILE HERETOFORE the facilities of the fellowship endowed by the Refractories Manufacturers' Association at the Mellon Institute of Industrial Research of the University of Pittsburgh have been open to members of the association only, it is now possible for others to have access to this central laboratory. At the Pittsburgh meeting on April 20, a resolution was adopted by the Refractories Manufacturers' Association to open the facilities of the research laboratory to individual firms and corporations not manufacturers of refractories. This opens the laboratories to users of refractory materials as well as those inspecting clay lands and other mineral deposits with a view of starting a refractory plant.

ESTABLISHMENT OF FELLOWSHIP

Altho there are a few who are thoroly familiar with the work being done at the Mellon Institute, there are others who are not, and who are seemingly unable to realize opportunities for the use of these facilities. In May, 1917, just three years ago, the Refractories Manufacturers' Association entered into an agreement with the Mellon Institute of Industrial Research at the University of Pittsburgh, whereby research work was to be conducted at that institution for the benefit of the refractories industry. A laboratory was equipped with the necessary apparatus for making physical and chemical tests and for the experimental manufacture of fire brick. The manufacturers could have constant access to this central laboratory devoted to the refractories industry for obtaining analyses on and advice respecting ceramic materials. It was also the purpose of this foundation to develop tests, study manufacturing principles, and in general to improve the industry where improvements might be established by means of technical data. The past attempts in this latter direction have been made public or available to members of the association whenever the opportunity has been presented.

The problems of the refractories industry are numerous and the personnel of the research staff has consequently been increased from one to five in a very short time. Experimental work was done for over fifty companies during the first year, and as a result, little time was available for general research on account of the demands for individual service. The first endowment was small but the scope of the fellowship has increased to the extent that an annual stipend of \$12,000 has been made for the year 1920.

INVESTIGATING SPALLING

At the present time considerable research is being conducted on the subject of spalling. This topic is being considered in detail and the following phases have been or will be investigated:

- (1) The causes of spalling.
- (2) Possible means of overcoming spalling:
 - (a) by the addition of flint clay to plastic clay;
 - (b) by the addition of calcined plastic clay to plastic clay;

- (c) by the calcination of flint clay;
- (d) by the addition of ganister to the mixture;
- (e) by the manufacture of the same mixture by different processes;
- (f) by modifying the steps of any one process.

There are many ways in which the testing facilities are being used and the following aspects may be of interest, or of possible future value.

ABOUT UNIFORMITY OF CLAY FROM THE MINE

In the majority of clay deposits the quality of the clay is not uniform from the top to the bottom, but each stratum has different characteristics with respect to color hardness, fracture, plasticity, composition, and refractoriness. At the same time, when the quality of the clay at different levels has been established, it may be assumed that it will remain so for a considerable distance. Consequently, the results of an elaborate investigation may be expected to apply for six months or a year or until a new kind of clay is encountered. It may be said, however, that it is often impossible to judge the merits of a deposit by the eye. In the various cases already investigated, experienced superintendents have been rejecting good clay, later found to be the best in the mine; at other times poor clay has been unknowingly used; it has also been found that rejected clay was of average run-of-mine quality and hence should have been used. In view of these facts no official can expect the most economical mining of the raw material, or the maintenance of the highest commercial standard, without supplying adequate information to the operators.

Sometimes a survey is followed by the submitting of samples of the green mix at weekly intervals. In those cases a definite standard is set and the superintendent is charged with using his data in maintaining that standard. To say the least, such practice keeps him "on his toes;" in case a depreciation in quality does occur it is known before the brick come from the kiln and they may be placed accordingly.

TOPICS FOR CONSIDERATION IN MANUFACTURE

In the manufacturing process, it is difficult to make definite suggestions as to the mode of manufacture because of the slight difference existing in the different localities. However, the following general topics may be considered in the light of the suggestions given below:

(1) *Grinding.* It is a known fact that the grinding has a marked influence upon slag penetration, resistance of pressure at high temperatures, spalling, mechanical strength, and abrasion. Unfortunately, no law can be devised which will measure the resistance to these influences but it is necessary to prepare samples, using different grinds, and to subject them to tests which will give specific information regarding these characteristics. In some cases standardization of practice has never been attempted, in other cases it has progressed to a certain extent but without sound, fundamental, technical infor-

mation. In one case the resistance to spalling was increased 50 per cent. by changing the grind.

(2) *Tempering.* Likewise the time and manner of tempering or pugging is important. Undoubtedly pug mills will give sufficient temper in some cases, while in others wet pans are necessary; in one case a combination of the two appears to give the best results. The rate of pugging is known to have increased or decreased the strength of the product of one plant 30 per cent.—the use of two mills in that case may produce remarkable results. At another plant the strength of the finished product varied 100 per cent. as the process of tempering was varied. The amount of water in the column coming thru the auger helps determine the final properties of the brick, yet it is seldom that the necessary tests are applied regarding running a soft or stiff column. It is quite possible that studies of brick made with different columns would reveal interesting facts in many cases.

PROPERTIES OF CLAY THAT SHOULD BE KNOWN

(3) *Shaping.* In a general way the characteristics of hand made, dry pressed and steam pressed brick (when made from the same clays) are known. However, when specific information is available it is often possible to improve the different products in those respects in which they are weak. Such improvements may be made by altering the grinding, pugging, pressing, repressing, or even the batch itself; the solution is generally simple if the weakness is only known.

(4) *Installation.* It hardly seems possible to have too much data regarding the properties of fire brick, in order that they may be placed advantageously. The nature and completeness of this data will depend upon those who use it. From the purely technical standpoint, however, it should start with the clay itself and should cover refractoriness composition and the burning characteristics, i. e., its volume and porosity changes over a range of temperatures. Following this, a complete set of charts regarding the influence of burn, grind, com-

position and process of manufacture is of value. To say the least, the command of such knowledge counteracts the prevailing lack of respect for the industry. Furthermore, when applied accurately, it should make possible a decided improvement in the service secured with a possible saving in cost.

HELPS ANSWER CUSTOMERS' COMPLAINTS

A very successful way for meeting complaints of users of refractories is by having advance information. By having this information, a poor lot of brick will not be placed in severe service, yet if failure does result it will be possible to state that "our product on that date had a fusion point of — degrees." The ability to honestly make such a statement not only commands the respect of the purchaser but also gives added confidence to the salesman. Very few companies would venture to push a claim in the face of such a statement, or to conscientiously attribute a failure to the brick.

To have work done by the laboratory endowed by the Refractories Manufacturers' Association, a scale of charges is in force which is considerable less than that of commercial testing laboratories, and one has the advantage of having experts who specialize on this kind of work perform the experiments. Records show that with the usual volume of work, the charges for the investigations done by individual companies equals the maintenance cost for the year. Hence, the additional research work conducted for the benefit of all, costs little or nothing. For experimental work, six samples should be sent for cold crushing tests, three for spalling tests, two for slag tests, one for a fusion test, one for a chemical analysis, two for reheating tests, one for a load test, or about ten for a rather complete set of tests. When raw clay is being studied, the results will be more general if several pieces are sent and at least five pounds should be available for making porosity, volume, shrinkage or similar tests. All charges for service are made thru the secretary's office of the Refractories Manufacturers' Association, Oliver Building, Pittsburgh, Pa.



NOTES *from* the NATION'S CAPITOL

CONGRESS seems rather to be "speeding up" things a little these days, evidently desirous of making the most of the remaining time before the adjournment for the National conventions. A number of interesting measures have been introduced during the past fortnight, both in the Senate and the House, and among these, of interest to ceramic men, are:

Senator Henderson, Nevada, has introduced a measure designed to bring all mining activities, regardless of nature, under an Assistant Secretary of the Interior, with view to greater co-ordination and concentration. The work is now handled by the Department of the Interior, geological survey, Department of Agriculture, and other bureaus will be included in the change.



Senator Calder, New York, has introduced a bill providing for an appropriation of \$6,000,000 for the erection of a new building for the Post Office Department at New York, to be used for handling foreign mail.



The Postoffice Committee of the House of Representatives has tendered a favorable report on a bill continuing the existing second-class mail rates until July 1, 1921.



President Wilson has signed the deficiency bill, authorizing \$300,000,000 for railroad operation deficiencies. It is expected

that about \$125,000,000 of this amount will be made available to the railroads for the purchase of new rolling stock.



The Interstate Commerce Commission has issued three important orders which are believed will help to solve the present freight congestion. These are (1) The dispatching of freight by other routes than those designated by the shipper; (2) To make daily deliveries of freight cars to other systems; and (3) To send solid trains of empty cars from one part of the country, as may be required, to another part. Under the first noted order, the railroads are allowed leeway in routing or re-routing a car by any line to avoid the necessity of taking it thru congested terminal points; the shipper will not be asked to defray a higher rate or extra charge for this re-routing, and when a railroad re-routes a car it is required to notify the shipper by mail.

Opposes Soldier Bonus Legislation

Secretary Houston, May 19, announced in a letter to Chairman Fordney of the House Ways and Means Committee that he was opposed to any soldier bonus legislation "in any form, however financed." Said in letter: "The most serious aspect of this compensation matter * * * is the proposal greatly to add, especially at this time, to the present grievous burden resting upon the people of the nation, and upon the Treasury."

POINTS OUT URGENT NEED *for* TECHNICAL AID *in* CLAY PRODUCTS INDUSTRY

*Shows Two Ways for Solving the Problem of Investigating,
in An Efficient and Economical Manner, the Possibilities
for Greater Mechanical Assistance in the Clay Industry*

By R. T. Stull

Editor's Note:—This paper was recently printed in the "Journal of the American Ceramic Society" and was the address of the author delivered as retiring president of the above society, at its annual meeting held in Philadelphia last February. Mr. Stull is well known as a student of technical problems in the clay industry and his message carries considerable weight. He is now Chief Ceramist of the United States Bureau of Mines and Superintendent of the Ceramic Experiment Station.

CONSIDERABLE PROGRESS has been made in the clay industry within the last half century but this progress has not maintained the pace with that made in many other industries. The plea for the need of research in glass by Dr. Washburn and that of Mr. Purdy for research in refractories appearing in the November issue of the Journal are both excellent and timely. However, an analysis of the situation reveals the fact that the same urgent need for research exists in practically all other ceramic industries and more especially does this need exist in the clay industries.

The value of all ceramic products¹ in round numbers amounts to \$500,000,000 per annum. Of this sum approximately \$250,000,000, or one-half, is represented by clay products. The value of brick of all kinds including common, face, paving, ornamental, enamel and fire brick is placed at approximately \$120,000,000. The value of brick, therefore, represents about 24 per cent. of the value of all ceramic products and 48 per cent. of all clay products. Brick, therefore, represents the largest item in value of all the different ceramic products.

INDUSTRY COMPOSED OF MANY SMALL UNITS.

The industry is composed of a large number of comparatively small units and the number of plants representing the investment of a million dollars or more can be counted on the fingers of one hand.

The date when brick making began is unknown and the industry has played an important part in history thruout the ages down to the present time. At present the industry is carried on in every state of the Union and in our foreign

possessions. From the points of value, extent and distribution of the industry, brick is bound to exercise no small influence upon the economic life of mankind. Approximately 70 per cent. of the cost of production of brick is about equally divided between fuel and labor; an extravagant use of these two commodities such as no other industry would very long tolerate.

Advancements have been made but these advancements have been confined principally to both ends of the process while the middle has been marking time. At the beginning of the processes, mining the clay by steam shovel or planer, its transportation, grinding, screening and pugging are practically automatic. At the finishing end the continuous and tunnel kilns have made it possible to save more than 40 per cent. of the fuel as compared to the intermittent kiln. However, from the cutting table on thru the process until the brick are delivered to the stock piles the movement of material is almost entirely dependent upon hand labor.

MECHANICAL ASSISTANCE MOST NEEDED

There is no end to the problems needing investigation in order to learn the "how" and "why" but that most needed in the brick industry to-day is "mechanical assistance."

After the brick leave the cutter they are hacked by hand on dryer cars. When dry they are taken from the dryer cars and set in benches in the kiln. After the firing process has been completed and the brick cooled, they are taken from the benches, sorted and hacked on wheel barrows or trucks. The brick are conveyed to the stock pile or freight car and again handled for the fourth time.

The first auger machine was made over fifty years ago and up until a few years ago it was stated that this same machine was still making brick. The auger molding machines, built since the appearance of the pioneer, have been constructed along the same lines of its predecessor. The improvements in these machines over their forerunner have been confined principally to increase in size, strength and capacity and have been built along lines of better proportions but the fundamental principles of auger knives and barrel have remained unchanged.

Approximately 60 per cent. of the power applied to the molding machine is lost in friction and resistance of the auger and knives in cutting thru the clay or churning it around in the barrel and as long as we are dependent upon an auger for forcing the clay thru a die just so long will it be necessary to contend with laminations.

It is not impossible to develop a molding machine in which all the power expended is utilized in molding the

¹The value of all ceramic products is given as \$447,000,000 in Journal Amer. Cer. Soc., Vol. 1, No. 6, p. 372. The value of all clay products reported in "Clayworking Industries and Building Operations in the Larger Cities in 1919" by Jefferson Middleton, U. S. G. S., is given as \$248,023,368 and the value of brick of all kinds gives a total of \$118,076,507.

clay column except that necessarily lost in the friction of the bearings, and which can mold a clay column substantially free from laminations. If such a machine can be developed it must necessarily be a radical departure from the present auger machine.

DEVELOPMENT OF MOLDING MACHINE

The two principal requirements that a shale or clay must possess in order to make a successful paving brick are long vitrification range and ability to make brick that will meet the requirements of the rattler test. There are a large number of clays and shales of long vitrification range but which laminate so badly when molded on the auger machine that they will not withstand the rattler test. The development of a molding machine capable of molding a clay column substantially free from laminations would broaden the manufacture and uses of paving brick and develop the industry in localities now remote from good paving brick clays. It would also make possible the molding of stiff mud fire brick of better structure.

The molding, drying and firing of brick are simple operations as compared to more complicated things being done by automatic machinery in other industries. It is true that automatic setting machines are in successful operation, setting brick in scove or open top kilns, but a successful machine for closed kilns remains to be developed. Numerous patents have been issued on automatic hacking machines, but their practical worth is still a question, since they have not been put into practical operation. A brick plant was built several years ago to eliminate hand labor, but the success of this plant has evidently not been considered sufficient to warrant the building of other plants along the same lines.

All these experiments and inventions are commendable and good in that they are the necessary pioneers in the course of development. The first automobiles were unreliable as to movement, since they might run a few miles or only a few feet and stop without apparent cause and require a half day's tinkering before they would start again. But they were the pioneers representing progressive steps which have led to the almost perfectly operating automobiles of today.

The time will come when brick will be made automatically without being touched by human hands thruout the process of manufacture. It will require years of painstaking experimental work and require the expenditure of many thousands of dollars.

AN AUTOMATICALLY OPERATED BRICK PLANT

The modern bottle blowing machine has done more to advance the glass bottle industry than any other single achievement. Its development required a number of years and the expenditure of over half a million dollars. Its development, however, was made possible by the wisdom and foresight of a capitalist who was willing to furnish the necessary financial backing. There is no brick manufacturing corporation large enough or willing to "tie up" the necessary capital over the period of years necessary in perfecting the automatically operated brick plant.

The modern automobile is a wonderful machine made up of a number of intricate parts. It is not the invention of one man but represents the best thoughts and efforts of hundreds of men, each contributing his part to the many intricate details woven together into a harmoniously operating machine. Thus it will be with the automatically operated brick plant of the future. It will not represent the inventive talent of one or two men but the best efforts of many mechanical, electrical and ceramic engineers and practical brick makers. When a number of inventors are working independently and more or less secretly in developing certain mechanical phases of an intricate process, it

means more or less duplication of work and requires a long period of time before these inventions can be sifted and the best features brought together and formed into a synchronized and practically working unit. Such development also involves patent conflicts and considerable delay in securing control of certain desirable patented features.

COST OF PRODUCTION MUST BE REDUCED

The retail price of brick has nearly trebled in the last ten years and the bulk of this increase in price is due to the increased cost of fuel and labor. Very little has been done in the last decade to reduce the cost of these two items and that which has been done has not been taken advantage of fully by the brick industries.

If the retail prices of brick are to be appreciably reduced and still leave a fair margin of profit to the manufacturer, it is obvious that the cost of production must also be reduced. Since 70 per cent. of the cost of production is chargeable to fuel and labor, reduction in the cost of production must be made largely by a reduction in the cost of these two items. The only solution to the problem appears to be the development of automatic machinery and the improvement of the continuous or the tunnel kiln.

The evolution of the industry, if left to itself, will be slow and the total sum expended will represent a huge sum. In the meantime the market price of brick must be governed largely by the conditions of fuel and labor. There seems to be but two possibilities by which the problem may be solved efficiently, economically and in the shortest possible time. First, that the enterprise be financed by a capitalist or corporation not afflicted with "cold feet" or impatience and willing to finance the enterprise to the limit. Second, the formation of a development corporation composed of a large number of brick companies and sufficiently capitalized to meet the necessary experimental requirements. A plant should be set aside as an experimental plant or, what would perhaps be better, to build an experimental plant on a sufficiently large scale to work out the process in a practical way.

In planning such an enterprise, we must not lose sight of the value of research of the physico-chemical nature. The experimental plant and the research laboratory should be combined for many problems will arise of the "how" and "why" nature which must be solved in the laboratory. The big problem is that involving mechanics, but when the "modern brick plant of the future" is finally evolved, it will be found that no small part will have been contributed by the research laboratory.

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Secrets of Success

To the man who observes, uses his brains and is willing to work with an eye on the future instead of the clock "there ain't no such animal" as secrets of success, it's an open book written in a language which he thoroly understands. He observes things and his brains tell him that if he is at work when the whistle blows he kills not the proverbial two but three birds with one stone. (1) He has that satisfied feeling which comes to a man who does the square thing. (2) He is building a better job for himself and therefore assures his future. (3) He has a fatter pay envelope at the end of the week.

The man who observes develops an accommodating spirit, he uses the electric lights and the conveniences thruout the plant as he does those in his home, he does not have to be kidded along "by the fellow in the white collar whom he once called 'the boss'" to do these things. He learns that it pays to do them. No, there are no secrets to success; a man succeeds because he is careful of his employers' interests because he knows that they are his own interests. When he gets to that point nothing can prevent his success.—*Syracuse China News*.



The General Appearance of the Murray Brick Co.'s Establishment at Cleveland When it Was Taken Over by the Independent Brick & Tile Co.



These Round Down-Draft Kilns, Which Number Eight, Are Now in Operation Again After Having Been Shut Down for Some Time.

REMODELED PLANT NOW PRODUCING 100 TONS *of BRICK and TILE a DAY*

FROM A PARTLY DISMANTLED PLANT, entirely out of operation, to a production of one hundred tons of brick and tile a day in less than a month, has been the accomplishment of the Independent Brick & Tile Co., in taking over the Murray Brick Co.'s establishment at Cleveland, Ohio. Where there was no activity before, eight kilns are in operation now, as shown in the accompanying photograph.

The property of the Independent company is within the switching limits of the city, but, as Goldberg says, it doesn't mean anything just now. However, the plant is even more accessible for trucks making deliveries either to dealers or direct to the job in other parts of Cuyahoga County, and a constant stream of such trucks is a daily sight among these buildings.

Herbert F. Geist, intrepid president of the Independent, under whose personal direction the plant has been put upon an efficiency basis, was caught while he was out taking pictures. Superintendent Glance A. Warstler, gifted production manager, who has brought the production itself up to a commercial level in record time is also shown on

this page, as well as a picture of the plant as it looked when taken over by the Independent Brick & Tile Co., and how it looked one month later.

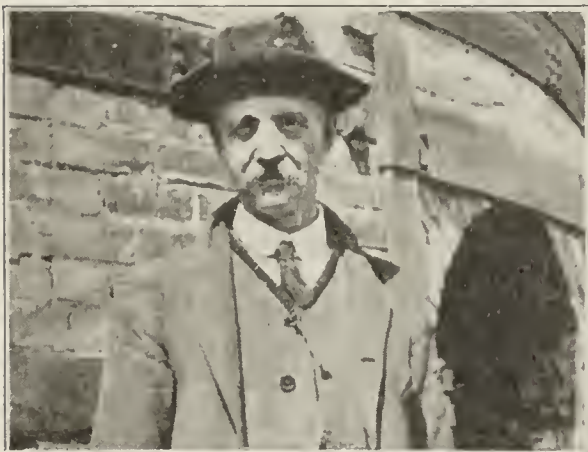
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Chicago Section Plans for A. C. S. Meeting

Members of the Chicago Section of the American Ceramic Society held a meeting at the City Club, Chicago, on Friday, May 21, to discuss plans and appoint a chairman for a committee to make arrangements for the summer meeting of the American Ceramic Society, which will be held in Chicago this year. F. B. Ortman, of the Northwestern Terra Cotta Co., was appointed chairman, and he is to appoint his own committee to take charge of local arrangements.

The summer meeting of the American Ceramic Society will likely be held in the latter part of July.

Following the business session of the meeting, two excellent papers on the subject of enamels were presented. Despite the short notice a good attendance was at hand.



Glance A. Warstler, Who As Superintendent, Has Brought the Plant to a Commercial Producing Basis in Record Time, is Shown Above.

How the Plant of the Murray Brick Co. Looked One Month After it Was Taken Over by the Independent Brick & Tile Co.



Herbert F. Geist, the Intrepid President of the Independent. Under Whose Personal Direction the Plant Has Been Put Upon An Efficiency Basis.

WHY THERE SHOULD BE *a* STANDARD SIZE *for* COMMON BRICK

Why Every Brick Manufacturer Should Make It Easier for His Customers to Use His Product—A Paper Read at the Annual Meeting of the Common Brick Manufacturers Association, Held in Columbus, Ohio, in February 1920

By William Carver

ALMOST EVERYTHING manufactured today in great quantities is standardized. Automobiles, ships, clothes, wagons, gramophones, and thousands of other articles are standardized. Manufacturers of such articles have found that standardization is essential to increased and yet economical production.

Most of the articles mentioned are finished products. In the eyes of the brick manufacturer, a brick is, of course, the finished product. He is in business to make brick, and when he has loaded his brick on the car, or delivered them on the job he is thru.

The general public, however, or the man whom we might call the ultimate consumer, looks at brick with other eyes. A thousand brick are of no value to him unless they are in the walls of his house, giving him service. The ultimate consumer, or the building public, in the long run controls the brick business.

When planning a new building, he will be influenced to use or not to use brick by three things—first, whether or not he knows about brick; second, if he does know about brick he will consider the service brick will give him; and third, he will consider the degree of service which the brick manufacturer gives in making it easy for him to use brick.

The ultimate consumer does not, of course in all cases, decide these things himself. Much of his authority to choose material is delegated to technical men such as architects, engineers, and the like. These men, however, are employed to look after the interests of their employer, the ultimate consumer; so the original proposition still holds good.

STANDARDIZATION A VITAL THING

It is not necessary to discuss now the first two points. We all know the advantages of brick, its artistic possibilities, the money it saves the owner for upkeep, etc.; and it is one of the aims of the Common Brick Manufacturers Association of America to better acquaint the building public and the building professions and trades with these things thru the power of advertising.

The title of this paper should really have been "Why Every

Editor's Note—After some discussion, the approximate size, $2\frac{1}{4} \times 3\frac{3}{4} \times 8$ inches was unanimously adopted as the standard size brick of the Common Brick Manufacturers' Association of America.

Committee C-3 of the A. S. T. M. convened in Columbus the following day, and changed their tentative size to meet the size adopted by the Common Brick Manufacturers' Association.

The standard size of the A. S. T. M., the American Face Brick Association, the Common Brick Manufacturers' Association of America, and the National Brick Manufacturers' Association are now exactly the same— $3\frac{3}{4} \times 2\frac{1}{4} \times 8$ inches.

Brick Manufacturer Should Make It Easier for His Customers to Use His Product," for that is what the standardization of brick really means. Standardizing brick really removes another obstacle to its use.

Standardization of the size of brick is no abstract matter to be discussed at a convention, adopted by a few manufacturers and forgotten about by many others. Standardization is a vital thing. The present lack of standardization works to the detriment of the industry and to every individual manufacturer. It is a factor which influences the number of brick you sell and the profit you make in normal times.

We will take up in detail the advantages to the architect, the engineer, and the contractor in having a uniform, standard size. In many localities common brick are entirely suitable for facing purposes. In making working drawings for brick buildings, the architect finds it impossible to dimension such things as windows and door openings and pier and pilaster sizes until he knows the size of the brick which will be supplied to the job. This means much lost time and motion and, if it is decided to change over to another brick, a great deal of money is lost in changing dimensions all over the drawings. I can tell you from practical experience how vexatious a thing it is to find, after completing a set of drawings, that many of the dimensions have to be changed because some other brick has been decided upon. Architects will welcome most heartily a standard size brick, so that no matter where the building is that he is designing, he can go ahead with his working drawings with confidence that the dimensions on them will not have to be changed to suit a different brick.

IN FAVOR OF UNIFORM SIZE

The following is a letter received from Emery B. Jackson of the firm of Coolidge & Hodgdon, one of the most prominent firms of architects in this country:

"My dear Mr. Carver: In thinking over our recent conversation about standard size brick, I have come to the conclusion that it would be of very considerable convenience to the architects. It has been our experience that after laying out a building and figuring the openings, etc. for a certain brick that it is often necessary to use another make, with the result that considerable readjustment must be made in the plans.

I sincerely hope you will be successful in obtaining the cooperation of the manufacturers.

Yours cordially,

(Signed) Emery B. Jackson."

The considerations which affect more particularly the en-

gineer are also of great interest to the architect. The structural engineer is interested more particularly in the strength of a building and its parts. He must have definite formulas of strength of his materials. These formulas are derived from actual tests generally made by concerns specializing in such work, or by universities, etc. He can obtain formulas covering the strength of wood, steel, or cement down to the last fraction of a pound. When he comes to brick, however, he is forced to do some guessing, owing to the variation in the sizes of the brick which are tested. The following is an extract from a letter from Prof. Ira G. Woolson, Consulting Engineer for the Board of Fire Underwriters.

"I am heartily in favor of the idea of a uniform standard size and fully appreciate the inconsistency of the present practice of having several sizes on the market and the annoyance and inconvenience occasioned thereby.

"I tested a great many brick during the period of years when I was in charge of the Testing Laboratory at Columbia University and was constantly annoyed by the wide variety of sizes in the samples submitted for test, and sometimes perplexed as to a fair and logical method of procedure to employ in interpreting the results of these tests because of the variations in sizes. I sometimes question whether the formulas usually applied to compensate for such variations really accomplish their object in an equitable manner."

MORTAR JOINT WEAKEST PART OF WALL

When common brick are used to back up face brick, both the face brick and the common brick should be of the same size. The weakest part of a wall is the mortar joint. Where the mortar joint has to be increased the wall is weakened just that much. Where the face and backing brick are of different sizes, the courses must be evened up by increasing the mortar joint either on one side or the other. In addition to weakening a wall built under ordinary conditions, it is even more serious when a wall is built in winter weather, to have the mortar joints of different thicknesses on each side of the wall. There is a great chance of such a case of the wall settling out of plumb.

Secondly, a bricklayer cannot work so fast when the brick are of different sizes, and any factor which tends to increase the cost of brickwork should be eliminated as far as possible. In a recent letter one of the engineers of the Department of Public Works, Philadelphia says:

"I am in receipt of your letter of December 8, 1919, in regard to a standard size for brick. I have been wondering for a very long time why we had so many different sizes of brick thruout the country, and, in fact, in local territories. It has seemed to me that every manufacturer has persisted in manufacturing his own size. In my opinion there is no reason why we should not have uniform dimensions for brick, except possibly for fancy face brick used in building construction. I certainly would welcome in my work a uniform dimension."

CONTRACTOR NEEDS OUR HELP

Next let us consider the contractor. When he is figuring a job, do we help him to give a close figure on a brick job by allowing him to know beforehand just how many brick go into a wall? Upon this depends also the amount of bricklayers' time required to lay the brick, and the amount of material in the mortar.

Men who try to promote the use of other materials give all the help in the world to a contractor figuring the material necessary to use their material. In the past, because of the sizes of the brick, no such help has been available to the contractor who wants to build with brick. We can give the contractor just such help as this if we adopt a standard size. We have, to some extent, anticipated this at this convention by preparing a series of nine tables, which are appearing in the revised edition of "Brick—How to Build and Estimate." From these tables a contractor can read off the number of brick

in walls of any thickness, and of any area. Whether or not it is the pleasure of the convention to adopt a standard size, these tables will still be useful, but it is our earnest hope that the size, $2\frac{1}{4} \times 8 \times 3\frac{3}{4}$, mentioned in the book will be adopted. In these tables the amount of material for mortar and an estimate of the time required to build the wall is also given. Information of this sort can only be accurate if a standard size of brick is adopted, not only by the Association as a whole, but by every brick manufacturer.

These are the aspects of standardization which affect the ultimate consumer. I believe I have shown you good and sufficient reasons as to why the lack of a standard size has, up to now, hurt the brick business. I believe that any one of the reasons mentioned would be enough to warrant the adoption of a standard size.

The face brick association adopted this size after experimenting for over a year, and have found it satisfactory. There is, I believe, great value in having one standard for all brick, whether it is face or common. During the War the government showed us the great waste in having different standards for similar materials. One of the first steps it took to put industry on a more efficient basis consisted in eliminating many standards which, up to that time, had been considered essential. And apart from this question of strict utility, there will be a great advantage in letting the business trades know that from now on every brick of every kind will be of the same uniform dimension.

We have been making an effort to find out from individual manufacturers and local organizations thruout the country, the average sizes of brick made in each section. Every reply we have received so far shows that manufacturers in many sections of the country are making a brick that is larger—that is, contains more cubic inches than the standard size brick.

"Standard size brick are being made by Georgia, Mississippi, Massachusetts, and some Philadelphia, firms. Close to the standard size were those made by the Chicago and St. Louis manufacturers. Every other size given was in excess of the standard size.

When speaking of the standard size, I refer to the size $3\frac{3}{4} \times 2\frac{1}{4} \times 8$. There are several reasons why, in our opinion, this size should be adopted by our own Association. Figuring with a joint of one-half inch, two headers plus a joint just equal the length of a stretcher. This makes it possible to use almost any bond or pattern desired on the face of the wall without difficulty.

This same consideration would also hold true in regarding the thickness of the wall. With a wall eight inches thick, there would be a vertical joint one-half inch thick between each four inch thickness of the wall.

MUST BASE ACCOUNTING ON SAME SIZED BRICK

A reason which is really more important than those just named, however, is that this size has already been adopted by the American Face Brick Association and the National Brick Manufacturers' Association. (Comparisons were made on the relative amount of clay required for an over-sized brick and a standard brick, and the selling price of each.) We have just had an excellent talk on the necessity for a uniform accounting system. It seems to me that before we can have a uniform accounting system of much value every brick manufacturer must base his accounting on the same sized brick, or his figures will be misleading.



R. S. MacElwee, first assistant director of the Bureau of Foreign & Domestic Commerce, has been nominated by President Wilson to be chief of the bureau succeeding Philip B. Kennedy, resigned, effective July 1.

CLAIMS MINES *have* CAPACITY *and* LABOR—CARS *are* ONLY HINDRANCE *to* ADEQUATE COAL SUPPLY

ON MAY 14, the following communication was issued by the Associated Coal Organizations in Indiana, calling attention to the serious situation confronting consumers of coal, as a result of the acute car shortage.

"In as much as many members of your association are consumers and purchasers of coal, and likely to suffer loss and inconvenience by reason of a critical condition which has developed and is growing rapidly worse, it is our duty to describe the situation to you, as we see it, and solicit your co-operation and help with the hope of devising means of obtaining relief.

"The coal mines of the country have ample productive capacity and at the present time there is sufficient labor to produce all the coal required to meet the needs. By reason of the short car supply our days of operation are reduced and our running time is intermittent. Outside manufacturing interests are sending representatives into our districts to induce our men to leave, thru the offer of high wages and steady work. This may bring about a permanent and irreparable loss beyond our control to correct.

"The only restricting factor in the production of coal is the deficiency in transportation. This analyzes itself into the switchmen's strike, car shortage, inadequate terminal facilities, insufficient motive power, and an unusual demand upon the resources of the railroads. Of all these points of difficulty, the car shortage is dominant; the others aggravate and multiply it and the total result is of paramount importance.

DEMAND EXCEEDS PRODUCTION

"The effect at the present time is that the country is without any accumulated storage. The demand exceeds the production. Relief is not in sight. Should this situation extend to the fall months, with the accompanying increase of consumption, the result would surely approach a fuel famine, with all its direct and indirect effect.

"The question of the country's coal supply is of equal interest to producer and consumer and the object of this statement is in no way intended to promote the selfish interest of any one interested party. It is presented upon the broad basis of the general welfare of all concerned.

"The most important matter now for consideration is the remedy. Open top cars are available for the use of many industries aside from the transportation of coal and these industries have full right to their proportion. At times in the past, in such emergency as we now see, those who have control of such matters have seen fit to give coal the preference over all other material in the use of such cars.

"Whether the present emergency would justify similar action is for the decision of those who hold this authority and in their findings they would necessarily be governed by the voice of the people. Our duty lies in bringing out the facts from our viewpoint. If you consider this emergency to be worthy of action on your part, it is for you to use such agencies as you have at your command to influence the situation in accordance with your ideas. Action should be taken promptly as the time is growing short.

"Assuming that you will agree that the present dangerous condition is entitled to the support of your body, we take the liberty of urging upon you to promptly employ the means which you have no doubt been called upon to follow in many similar situations as they have from time to time affected your membership. It is not within our province, perhaps, to suggest what these means should be, but as we view the situation, we shall in the end be obliged to get the matter before the Interstate Commerce Commission, as it is under the

authority of the law that this Commission has the power to inaugurate remedial measures. As to the means which may best be employed by you in bringing this to the attention of those who have the ultimate power of correction, are best known by you. Accordingly we submit this petition to you with every hope that you will give it the serious consideration to which it is entitled and that you will employ the most aggressive and effective tactics as indicated by your past experience in such matters. This we respectfully submit as a matter of vital importance and beg to ask your consideration and co-operation."

This bulletin was sent out thru the Indiana Coal Trade Bureau to a number of chambers of commerce, trade organizations, and similar institutions.

* * *

Big Fourth of July Celebration Planned

An impressive celebration will mark the occasion on July 4, of delivering the keys to the first 175 householders who have been successful applicants for the first batch of houses that have been completed out of the lot of ten thousand homes under construction by the Chicago Housing Corporation.

The substantial success of the initial enterprise of the Chicago Housing Corporation has aroused the enthusiasm of other large employers. Many of them have pledged financial assistance recently, including a large producer of milk and butter products, the head of a big coffee and tea concern, an automobile manufacturer, the owner of a large department store, and several financiers operating chain stores.

Government officials from Washington, state and city officials, a score of leading capitalists who have sponsored the project from its incipency, together with representatives from other cities contemplating similar enterprises, will have representatives at Chicago on the occasion of formally delivering the keys.

Cleveland, which will send a large delegation, has had a representative in Chicago thruout the period of the construction of the first lot of homes. A record of operations has revealed the fact that from twenty to twenty-five per cent. faster work has been done by bricklayers and carpenters than what is considered ordinary or normal for such work.

* * *

A. S. T. M. to Meet June 22-25

A copy of the provisional program for this year's convention, which is the twenty-third annual meeting, of the American Society for Testing Materials, shows that the new Monterey Hotel, Asbury Park, N. J., will be the headquarters on June 22 to 25 inclusive. The sessions open on Tuesday morning, June 22, and in the evening the president's address and reports of administrative committees will be presented. This will be followed by an informal dance and smoker.

The program on Wednesday afternoon will be devoted to committee meetings. A recreation period will be provided for on Friday afternoon during which the annual A. S. T. M. golf tournament will be held.

Clay workers and ceramists are chiefly interested in the program for the division on ceramics which is designated as the eighth session and scheduled for 8:00 p. m. Thursday,

June 24. The program for this period is announced as follows:

Report of Committee C-3: On Brick. Edward Orton, Jr., Chairman.

Report of Committee C-4: On Clay and Cement Sewer Pipe. Rudolph Hering, Chairman.

Report of Committee C-6: On Drain Tile. A. Marston, Chairman.

Report of Committee C-8: On Refractories. A. V. Bleininger, Chairman.

A Study of Refractory Brick. C. E. Nesbitt and M. L. Bell.

Testing of Porosity of Electric Porcelain. W. D. A. Peaslee.

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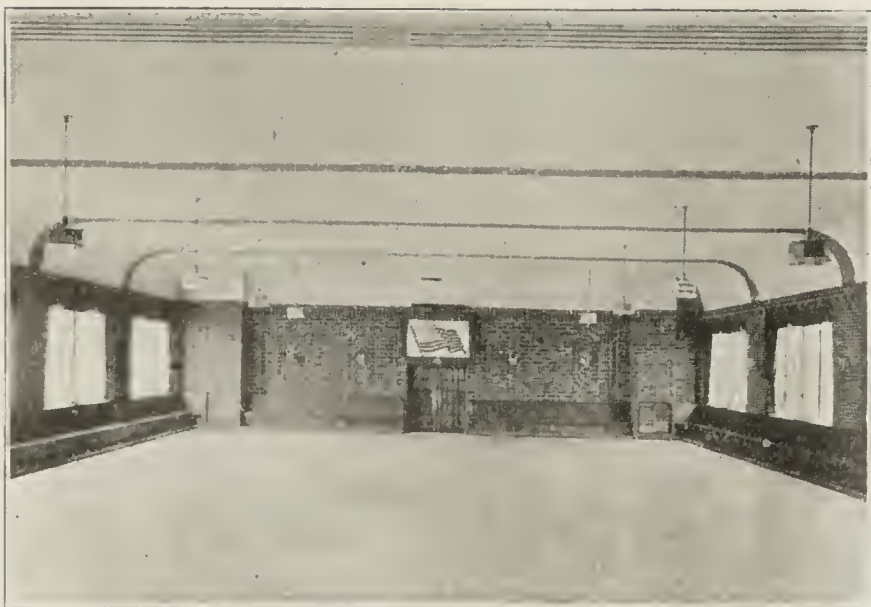
A Waving Flag of Clay Tile

"The only waving flag of clay material in this country is at Cleveland, Ohio." This is the statement of officials of the Bricklayers Benevolent Association, of the Cleveland district, following the unveiling of the flag at dedication exercise to mark the opening of the new assembly hall of the association, East 21st street at Prospect avenue, that city.

When the idea for a hall of ample size to meet the needs of the growing organization of bricklayers and others identified with the handling of clay building materials was started a year or more back, decoration of the interior, significant of the work of the members, was considered as among the first features. The idea for a flag was an after thought, by John W. Jockel, secretary of the building committee, and official in the Ohio State Conference of the bricklayers association. He reports he combed the country to find a designer that would undertake the creation of a waving flag in tile. All said it could not be done.

Finally the Zanesville Ceramic Tile Co., Zanesville, Ohio, decided to undertake the work agreeing to do it at cost if successful. The chief difficulty was in creating tile, all of which had to be made especially for this purpose, that would carry out the shaded, or waving, effect. The result, however, was a piece of ceramic art that has no duplicate to date.

The flag is built into the wall of the mall hall in the bricklayers' building. It is 8 feet 10 inches by 6 feet 4



In the Center of the Above Photograph Can Be Seen the Waving Flag Made of Clay Tile—the Only Waving Flag of Clay Material in the Country.

inches. It contains upward of 3,000 separate pieces of tile, each slightly different either in shape, size or shading, from the others. The Zanesville firm was so pleased with its

achievement, according to Secretary Jockel, that it agreed to deliver the work at cost, which was \$280.

The installation was by the Buffalo Mantel & Tile Co., Buffalo, N. Y., under the direction of one Tim Driscoll, superintendent of the firm, and himself a member of the tile setters' organization. The flag has been donated to the building by the tile setters' association.

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Delivering Tile by Boat

Success in making deliveries of interlocking tile by boat has inspired officials of the Denison Interlocking Tile Corporation, Cleveland, Ohio, to repeat this program, this



This Unusual Photograph Was Taken in Cleveland Recently and the Success of the Scheme Has Inspired Clay Men to Further Development of Boat Shipments.

time with a view toward getting material to the East. The first boat was brought down the lakes to Cleveland, where it was loaded to capacity with tile for completion on a job in Detroit.

The company now is planning, according to Bert J. Graham, general manager, to ship another large consignment of material to the interior of New York State. The boat will leave Cleveland and make deliveries at Buffalo and Niagara Falls. The material will be transferred from the vessel at this latter point to canal boats, and then go on to Oswego and finish delivery at Ogdensburg.

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Leo Nelson New Secretary of O. D. T. A.

At the special meeting of the Ohio Drain Tile Association, which was held in Lima recently, Leo Nelson, formerly with the Beaverdam Clay Co., of Beaverdam, Ohio, was named as secretary. He will devote his entire time to the affairs of the organization, with headquarters at Lima.

Another action taken was the appointment of a committee to meet with similar committees from the Indiana, Illinois, Iowa and Michigan associations to discuss the car situation. This conference was held at Chicago.

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To Assist in Home Building

The "installment mortgage" is one of the features growing out of the shortage of homes. Its inauguration is due to the efforts of some of the large industrial concerns in Chicago and other cities to promote the interests of their employees.

The shortage of homes adds not only to the financial burdens of many classes of people but has a general disturbing effect that fosters unrest and a decrease in production.

In one of the plans involved the employes are to make an initial payment of 10 per cent. of the cost of the home and then pledge themselves to pay the balance in monthly installments covering a period of ten years, the total cost being just what the cost has been to the corporation. It is believed that such plans can not fail to have a helpful effect on general industrial conditions for nothing has a more stabilizing in-

fluence on those who perform the country's work than adequate and comfortable homes.

During the first four months of the present year more than one-half of the total valuation of new construction work has been for industrial and business buildings. While there is great need for these, there is a vital necessity that a larger percentage of the nation's building activities should be directed to the construction of homes. Only about 20 per cent. of the total construction of the country so far in 1920 has been given to home building, which is at least 10 per cent. below normal.



BUILDING INDUSTRY *seems to be* GETTING JUST RECOGNITION; CREDIT *and* LABOR OUTLOOK *appears* ENCOURAGING in NEW YORK

WALTER STABLER, Comptroller of the Metropolitan Life Insurance Co. has authorized The Dow Service Daily Building Reports to assure the building trades that in so far as his company was concerned there would be no change in its lending policy resulting from the curtailments by the banks of mercantile credits.

"I told the Mayor that the Metropolitan Life Insurance Co. had \$20,000,000 to lend on new small dwelling construction and new low-priced apartments. We have already made commitments to the extent of \$12,000,000 for these two classes of construction which is to proceed to immediate activity and we are prepared to lend the remainder of the \$20,000,000 at once. None of this money will go into replacement loans, alteration of old buildings, nor into commercial construction, however.

"I am a pessimist in the present situation only to the extent that the great and growing need for housing is being subordinated to commercial construction, much of it, I am afraid being of a speculative nature, whereas the national need of the hour is for homes."

Other financial authorities said that they did not contemplate general shrinkage of credits on necessary building projects. The decision of lenders approached for building loans during the immediate future would rest, they said, very largely upon whether the projects were speculative in character or not.

GIVEN CLEAN BILL OF CREDIT

There was a wild scramble in the week beginning May 17, on the part of building material and equipment companies toward their various banking shrines to learn the attitude of the financial powers with relation to immediate future of the building construction industry. The strongest evidence that they were given, a clean bill of credit in the present situation developed in the fact that the building material and equipment market along the entire Atlantic seaboard and as far west as the Ohio river remained strong both on price and demand.

Lumber offered the only evidence of price shading, but investigation at the week-end revealed certain lumber speculators who had leased large options, caught short with cars in transit in the Middle West where sacrifice prices had to be resorted to when their bank credits were suddenly curtailed.

In the Metropolitan district an order was taken on May 21 for a million feet at the market's highest recorded price and another order of exact size was wired in from Pittsburgh at the same price level, the purchasers in either case making no quibble about prices whatever. Some lumber prices advanced.

PRICE NO OBJECT

So it is all thru the entire building material market. The week of May 24 will open with Hudson common brick firmer

at \$25 a thousand, wholesale, dock, N. Y., than it has been at any time this year altho cement and other materials necessary for its consumption are entirely out of storage. Second-hand brick is no longer being delivered in lots of less than three thousand and for deliveries in Queens or above Washington Heights the prices moved on May 22 at \$65 to \$70 a load.

All thru the building material market this same strength is noted. Charles L. Eidlitz summed up the equipment situation by saying the difference between the mercantile and the construction markets today is that in the former case there is under-production with no buyers and in the building industry there is under-production with the biggest demand that was ever known with price no object. In the building electrical equipment line, for example, sales are being made to old customers one year ahead subject to price at time of shipment at the convenience of the factory and with no cancellation privilege. Only recently an order for hundreds of thousands of dollars' worth of electrical equipment for a new building project was rejected by a factory because it was sold up for a year on business on these terms. It was unable to accept business from new customers.

CAR SHORTAGE OVERSHADOWS OTHER FACTORS

Building material dealers, with two, six or a dozen barrels of cement in sheds that normally would store six thousand or more barrels, said that instead of the market being weak, the mouth demands more than the hand can supply. Building material users do not question price. They demand delivery. Architects whose clients have housing or other necessary projects under contemplation say they have clear sailing thru the building departments. At the annual convention of the New York Society of Architects, when James Riley Gordon was unanimously re-elected for the fifth consecutive term as president, Adam E. Fisher, of Brooklyn, first vice-president, Edward W. Loth, of Albany, second vice-president, Frederick C. Zobel, of New York, secretary, Henry Holder, of Brooklyn, treasurer, and Walter H. Volckoning, of New York, financial secretary, the situation developing in regard to building, housing and labor situations were optimistically discussed and committees were appointed to investigate the conditions.

Building material manufacturers report the shutting down of non-essential industries is supplying them with much-needed labor that otherwise would have been impossible to get, and in consequence the entire Hudson river brick industry has already raised its production quota for this year, a prospect that was entirely despaired of only fifteen days ago. Cement manufacturers report a similar change for the better.

Civic, financial, distributing and building material manufacturing interests telegraphed every person in authority in and

out of Congress to support their telegraphic plea made to the Interstate Commerce Commission to place building materials on the railroad priority list next to food and fuel. Car shortage, in other words, overshadows all other retardant factors in the building outlook today.

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Danger of Forcing Prices Down Thru Harmful Measures for Control of Credit

F. H. Sisson, vice-president of the Guaranty Trust Co., of New York, asserted before the National Association of Manufacturers in New York, May 19, that an incomplete list of direct losses due to strikes in 1919 places cost to labor in wages at nearly \$725,000,000, and to industry at more than \$1,250,000,000. Mr. Sisson said the chief danger in present situation is that desirability of low prices as an end in itself may be so exaggerated as to lead to attempt

to force prices down thru harmful measures for control of credit.

* * *

Can Expect Now Only Moderate Financial Accommodations

Associated Press said recently: "While the price-cutting movement, which assumed nation-wide proportions yesterday, continued to spread, banking interests in New York, May 19, extended their campaign of deflation of credits and high commodity prices, carrying out their pledge to Federal Reserve Board. Pressure exerted by banks in wholesale dry goods and general merchandise districts was said to be responsible for wave of price cutting in retail trade. Banks were reported to have notified importers and dealers in luxuries, articles of apparel and manufacturers of so-called nonessentials that only moderate financial accommodations could be expected now."



IOWA CLAY MANUFACTURERS HEAR CLAYTON B. STIVER on "DEPLETION CHARGES"

IN AN ADDRESS before the Permanent Buildings Society at Des Moines, May 18, Clayton B. Stiver, an income tax expert, formerly connected with the United States Treasury Department gave the clay producers some very valuable information on "depletion charges."

Among other things, Mr. Stiver said:

"There are three elements affecting the manufacture of clay products that do not, by reason of their action, appear in the company's accounts. Nevertheless it effects the company's business just as much as a direct outlay of cash for services, overhead or any other direct charges to income. These elements of indirect expense are (a) obsolescence, (b) depletion, and (c) depreciation.

The Revenue Act of 1918 recognizes all three of these elements as being proper items of expense deductible from income in arriving at the net taxable income of the taxpayer, irrespective of the fact that assets may or may not be held in fee. Prior Revenue Acts limited these items of expense under certain conditions, principal among which, obsolescence, as such, has never been recognized. Depletion was recognized where natural deposits were owned by the tax-payer, but was to be disregarded if a leasehold.

OBSOLESCENCE VS. DEPRECIATION

"Obsolescence and depreciation ordinarily, under both the law and regulation so far as they apply to clay products manufacturers, merge one with the other. Depletion bears no relation to depreciation and should not be confused, except in so far as it may relate to obsolescence.

"The word depreciation was specifically referred to in prior Revenue Acts, but under the provisions of the Revenue Act of 1918 it is mentioned only indirectly by providing that a reasonable allowance for exhaustion, wear and tear of property used in the trade or business, including reasonable allowance for obsolescence, will be allowed. However, the regulation for convenience provided that such an allowance will usually be referred to as covering depreciation. Reasonable allowance for depreciation of any property used in the trade or business is that amount which should be set aside for the taxable year in accordance with a consistent plan by which the aggregate of such amounts, spread over the useful life of the property, together with the salvage value at the end of such useful life, will provide a sum of money equal to the cost of the property, or

its value as at March 1, 1913, if acquired by the taxpayer before that date.

"Heretofore the Government has not been materially concerned whether the taxpayer penalized himself by refusing or neglecting to take into consideration depreciation, depletion and obsolescence. However, it became of vital concern to it when Congress associated Capital and Income in the computation of taxes. It became materially more vital to the taxpayer for the reason if he does not, it works as a double edged sword by reducing his investment on one hand and erroneously increasing his taxable income on the other. Irrespective of whether you take depreciation and thereby reducing your taxable income, the law requires that you must reduce your invested capital by the amount of depreciation or depletion. It should be borne further in mind that Revenue laws recognize these losses, irrespective of a natural increase in the value of assets after acquirement or at March 1, 1913, if held prior to that time. The latter is appreciation and is not regarded by the law or regulations as either income or capital in the hands of the taxpayer. Even evidence by book entries, does not effect its standing.

BASING "FAIR VALUE"

"However, appreciation accrued prior to March 1, 1913, becomes property at March 1, 1913, and depreciation sustained on the property will be determined on such value rather than cost. Likewise depletion of natural deposits (clay) will be based on the fair value at March 1, 1913, if acquired prior to that time, or cost, or value thirty days after discovery, if acquired since that date.

"It is reasonable to presume that fair value in either case will be based on the thing for which employed. That is, if for farming its value would be based on farm values in the community—a price which a willing buyer and seller would agree upon. Likewise a clay deposit should be based on what the deposit is worth with a practical mill thereon but without regard to the mill value itself. This fair value should be reduced to a unit value. In the ordinary practice a ton is the unit upon which clay is measured. If this value is determined at March 1, 1913, as 10 cents or 15 cents per ton, that is the basis on which your depletion should be figured irrespective of any appreciation since then.

"The value of such assets acquired since March 1, 1913,

must be determined within thirty days after the deposit is discovered. Any appreciation by discovery, or otherwise, will not be permitted on which to base depletion if made after the thirty days of discovery.

"Appreciation prior or appreciation subsequent will not be permitted to become invested capital. Appreciation prior will absorb a prorata portion of depreciation sustained and in that respect may be conceived of as being, included

in invested capital. That is, the surplus account may not be reduced on account of full depreciation but a prorata part may be applied to appreciation.

"In any event it will be imprudence and folly in not taking depreciation and depletion in the proportion of your income tax returns irrespective of the darned information you will be asked to supply the Bureau of Internal Revenue at the time or subsequently."



WHAT SAND IS *and* HOW IT AFFECTS CLAYS

ONE OF THE MOST COMMON of all the elements that go to make up this earth is silicon, the symbol of which is Si. This substance, which is usually combined with the element oxygen (O) to form the compound silicon dioxide or SiO_2 , forms over one-third of the earth's crust. Silicon dioxide is usually termed silica, and it is very important to ceramists because our raw materials are obtained from the earth's crust, where silica abounds.

Silica is present in clay in two different forms, namely, uncombined as silica or quartz and in silicates, of which there are many. Of these, one of the most important is the mineral kaolinite which probably occurs in all clays, and is termed the clay base or clay substance. The other silicates include feldspar, mica, garnet, hornblende and others.

The percentage of quartz and total silica found in clays varies between wide limits. The following table gives the variation of total silica in several classes of clays, the results being obtained from several hundred analyses:

Kind of Clay	Per cent. of total silica		
	Min.	Max.	Aver.
Brick clays	34.35	90.877	59.27
Pottery clays	45.06	86.98	45.83
Fire clays	34.40	96.79	54.304
Kaolins	32.44	81.18	55.44

The free silica or quartz is one of the commonest constituents of clay, and ranges in size from particles sufficiently large to be visible to the eye down to the smallest grains of silt.

SAND REDUCES SHRINKAGE

We often hear the expression, "This is a sandy clay, you can tell by the feel of it." It is true that some sandy clays reveal their composition by their gritty feel. These are instances where the silica is coarse or of fairly large grain. When the sand is "fine grained" the material may appear to be rich in clay, plastic, and so forth, when as a matter of fact, this may not be true.

With the exception of kaolinite, all of the silica-bearing minerals mentioned before, are of a rather silty or sandy character, and therefore, their effect on the plasticity and shrinkage will be similar to that of quartz. In the burning of clay, however, the general tendency of all is to affect the shrinkage and also the fusibility of the clay.

Sand, (quartz and silicates) is an important anti-shrinkage agent, which greatly diminishes the air shrinkage, plasticity, density and tensile strength of clay, its effect in this respect increasing with the coarseness of the material. Clays containing a high percentage of very finely divided sand (silt) may absorb considerable water in mixing, but show a low air shrinkage. The brickmaker recognizes the effects mentioned above and adds sand or loam to his clay to correct such difficulties in his clay as high shrinkage, warping, long period required for drying, and too plastic, fat and tight-grained clays. Similarly the potter brings about similar results in his bodies by the use of ground flint.

With regard to the addition of sand however, it must be

borne in mind that the addition of small amounts will increase drying shrinkage and density, and decrease porosity. Thus brickmakers frequently get into difficulty thru the addition of non-plastic in the form of sand when it is added in only small amounts. However, a further addition of sand will bring about the conditions mentioned in the preceding paragraph.

In a test made on a New Jersey clay, the addition of fifty per cent. of sharp sand reduced the amount of water required a little over one-half. It also rendered the mixture more porous and permitted the water to escape more readily, thus reducing the danger from cracking and facilitating the drying as well. The air shrinkage was reduced 37.73 per cent. but it was accompanied by a loss in the tensile strength of nearly forty per cent.

HOW BURNING PROPERTIES ARE AFFECTED

In considering the effect of sand in the burning of clays it should be known that the quartz and silicates fuse at different temperatures. It is thought by some that because of the refractoriness of quartz, its addition to any clay will raise its fusion point, but this is true only of those clays containing a high percentage of common fluxes and silica and which are burned at low temperatures. Its effect on highly aluminous low-flux clays is to reduce their refractoriness.

A very sandy clay will have a low fire shrinkage as long as none of the sand grains fuse, but when fusion begins a shrinkage of the mass occurs. In the case of white burning ware, silica is the last to be dissolved when the vitrified state is reached.

A report on a Kansas paving block shale shows the addition of 7.14 per cent. of sand decreases the rattler loss from 22 or 23 to about 18 per cent. Other reports show that it has been used to prolong the vitrification range of pavers, and thus increases the percentage of number one products from the kiln.

HIGH AMOUNT OF SAND MAY CAUSE CRACKING

Other instances are known where the addition of sand to sewer pipe have both increased the range of maturing temperature, raising the temperature to which the ware could be burned, but increasing the crushing strength. Besides this, it also improved the salt glaze on the pipe.

When the percentage of mechanically mixed or free sand is large certain detrimental effects result. The ware is apt to develop cooling cracks which result because sand when heated above 900 deg. C. decreases in density. The change in density is sudden from 2.65 to about 2.3 or increases in volume about 14.7 per cent. This reverse occurs when the sand is cooled.

Instances have been known where terra cotta, enamel brick or glazed ware have cracked after being placed in buildings long after their manufacture. This cracking is due to a similar change in density of the ware which results in strains. These strains are usually caused by the ware having too high a content of silica and the products are quite certain to crack sooner or later because of the tendency for the silica to assume a more stable form in which case a change in density and volume occurs which causes the cracking.

The BUILDING SITUATION *in the* EAST

THE PAST FORTNIGHT has brought about noticeable improvement in building circles in the eastern district. Construction materials are being received and altho not quite in the desired quantities, yet a little is better than none, and whether burned clay products or general mason materials, incoming shipments are more than welcome. Some cities have been "hit" harder than others, and west of a line drawn about thru Plainfield, N. J., a point of embargo, the situation has cleared considerably.

Labor is at peace, and it is a mighty fine condition to record. There is hardly an eastern city of any importance which is now experiencing any difficulty in this respect, and the big problem of the hour is to secure more men. May 1 wage advances have been met fairly and squarely by employers, and whether just what the men asked, or a mutual compromise, the best satisfaction evidenced for many months past prevails.

The intense demand for new buildings of all kinds continues. Notwithstanding higher levels for building materials and wages during the past month, and proportionate increase in construction costs, sizable contracts are being let; contractors are more than busy—and they expect to be for many months to come. The bulk of operations is devoted to structures which are of essential nature, and there is very little, if any, speculative work. Housing activities are lagging in the majority of eastern cities, and even tho the call for living quarters of all kinds holds keen, prospective builders of apartments and homes are letting the days go by. The work of this kind that is going forward is only a small fraction of that which ought to be, and just what this means is likely to be demonstrated forcibly as another winter season comes around.

Brick men and producers of other burned clay products in different eastern cities, as New York, Philadelphia, Baltimore and Washington, can be said to view the outlook in fair favor. The industry as a whole shows a tendency to stabilization, and this is what is earnestly desired. The quicker we come to it, the faster will real progress ensue.

WHAT THE CITIES ARE DOING—NEW YORK

The tone of affairs in the metropolis shows a strong desire to get "back on the job" in the matter of construction work. Of all eastern cities, New York has been one of those "hardest hit" in the matter of labor difficulties and shortage of materials. The first noted, labor, dates back to the beginning of the year, and with various strikes, important and unimportant, of many weeks' duration, construction operations quite naturally felt the effect. In the matter of material scarcity, it is still feeling the effect!

While the freight situation has cleared to some extent, the difficulty in securing construction materials still prevails, and is likely to prevail for a few weeks to come; it is safe to say that it will be late in June before things are anywhere near normal, and in the meantime dealers and contractors will have to do the best they can—that's about all there is to it. Motor trucks have been used freely during past weeks, traveling into New Jersey to points of embargo and making their way back to town with loads of needed commodities; waterways have been pressed to service in every possible way, and it has been sheer determination that has saved the day more than once for enterprising interests in the trade.

Building plans are coming along at a good pace. There is a large volume of work in sight, running into millions of dol-

lars. What might be done and what is being done are two distinct things. You can't build if you haven't the necessary materials, and that's all there is to it. Material dealers and contractors, as well as others in the trade, are facing heavy losses, not to speak of the discouraging aspect it brings to refuse orders because desired supplies are not available. With the labor situation now standing as well as at any time in over a year back, it is a pity that things can't move.

Large gains are to be recorded for building operations in the Greater City for the month of April, shown by figures just compiled. In this month, plans were filed for 218 new buildings, with total cost aggregating \$53,354,358, as against 105 buildings, with valuation of \$10,685,450 for the corresponding period of a year ago—this is a gain of 113 buildings and \$42,668,938 in costs. Not bad, to be sure, even for New York.

NEW JERSEY

The situation in New York, noted above, is reflected in Northern New Jersey. The embargo has hampered operations to a serious extent, and millions of dollars in construction activities which have been inaugurated are effected. There is considerable factory work under way in this district and oh! how slow some of this is moving. The spring season is moving rapidly and the anticipated "boom" has been all but smothered thru labor troubles, upward trend of prices and now, a difficulty in securing commodities.

Newark, N. J., is holding up well in the matter of new construction operations, altho a decided contrast in volume and valuation of work in the last few weeks is to be noticed. The two mid-weeks of the month have produced totals of \$155,052 and \$370,705, respectively. The larger end of the work is centered in industrial operations and dwelling work is not at all what it should be. The weeks are now averaging plans filed for about eight houses, which is very low, indeed, for a city of this size. Hopes are expressed that a turn will come, but from the general sentiment, some weeks are sure to pass before conditions change.

Newark's suburban districts are going ahead far better than the major city in the matter of housing work. South Orange is enjoying a little building "boom" all its own, and in the first five months of the year the volume of work exceeds the half million mark, and practically all in residence work. East Orange and Orange are also active in this direction, with a number of large projects covering apartment houses now in operation.

Trenton, N. J., has not been among the cities to suffer very severely thru material shortage, and consequently things are going along in this capital city in a very encouraging way. The work recorded during the month of April totaled \$1,261,701, which is a record figure in the history of the local building department; it exceeds by a small margin, the entire year of 1918, when the figures were \$1,219,258. Factory work is on the increase, and brick residence work is coming to larger and larger proportions as the spring days advance. Local brick men and material dealers view the situation with favor, and there is every reason why they should.

PHILADELPHIA

There has been a decline in construction operations in the Philadelphia district during the past fortnight. The condition of the material market can be held as responsible for this condition, altho there is a noticeable tightening of mortgage

money and other funds for building work. Those who are well informed locally are of the belief that the next month will bring about a marked change in the situation. Within this time it is expected that the freight congestion will have passed, that materials will be available in desired quantities and also, some go so far as to prophesy that there is going to be a downward trend to prices, following the lead of the different necessities of life in various parts of the country.

The Philadelphia Real Estate Board and the Philadelphia Operative Builders' Association have been holding a series of meetings in an effort to devise plans to relieve the present housing situation. The problem in this respect is no mean one in this vicinity; many months have gone by since conditions first came to light and there has been little or no action taken to bring about a change, simply spasmodic building in the line of individual construction. The big key to the matter evolves around the question of finances. Local banking institutions are not showing much interest and the various gatherings have been designed to create attention in financial circles. It is held that \$80,000,000 in mortgages is required in the city each year to cover the natural increase in the call for homes, while an additional amount closely approximating \$100,000,000 is needed for industrial and building operations. Of this considerable fund, it is said that practically nothing is available at the present time. It is estimated that 20,000 new dwellings are needed in the city for current demands.

The popularity of vitrified brick as a paving material continues thruout Pennsylvania. Plans have been prepared and bids are being asked up to June 16 for a number of highways of this material by the State Highway Commissioner, Lewis S. Sadler, Harrisburg. The work will be done in Fayette County, Indiana County, Jefferson County, Clarion County, Schuylkill County, Venango County and Washington County, covering many thousand feet in all.

WILMINGTON

There is far more activity in the local realty market than in building circles. Many properties are changing hands thruout this district and attention is being directed to existing structures rather than to new buildings. At the same time important construction work is going forward at a fairly good pace, not to the extent as actually needed, but rather according to the inclinations of builders. As in other sections of the East, there has been no little difficulty in securing building materials, but the city has been fortunate in not being "too hard pressed" in this connection.

A number of interesting projects are now being considered in the city. These include a new five-story, brick club house for the local Elks, to be located on Deal Avenue, near Washington Street; the building will cost about \$400,000; bids are being taken on a new Y. W. C. A. building on King Street; the structure will be five-story, brick and stone, and is estimated to cost about \$250,000. Six two and one-half story residences will be erected on Maryland Avenue by J. W. Willis; the homes will be of brick and stucco and are estimated to cost about \$35,000.

The Building Commission formed at Wilmington to give attention to city and county building has elected James S. Chandler as president.

BALTIMORE

Baltimore, Md., is forging right ahead with construction work. What is going on in other cities does not trouble this community, it has enough problems at home to take care of, and every effort is being made to handle the situation to the best ends. There has not been such a great shortage of materials hereabouts, either, for dealers are well stocked with general materials, and when it comes to brick, the large local producers can readily fill all current demands. The local building department reports constant increasing activity, and

during May some \$100,000 building permit days have been seen. Industrially, the city is hitting a top pace; the Industrial Bureau of the Board of Trade is a very active body and during the month of April no less than thirteen new industries were attracted to the city, some large and some small—but they all count. There is a distinct advance, too, in housing operations, altho the needs of the municipality in this respect are not by any means satisfied. Brick is being used in large quantities for this latter work.

The Merchants' & Manufacturers' Association, Baltimore, is planning for the organization of an interest to be known as the Baltimore Housing Corporation, capitalized at \$1,000,000. The membership will comprise local influential citizens and it is proposed to engage actively in housing operations. Even with a total of 600 building and loan organizations in the city, things are not going forward to the desired extent; it is estimated that the new industrial concerns locating in the district will increase this character of population in the city at least 100,000 during the present year, and naturally accommodations must be found.

The Convention Bureau of the Merchants' & Manufacturers' Association is going to make a "big try" to have the 1921 convention of the National Association of Real Estate Boards take place at Baltimore. A big delegation from the city will go to Kansas City for the present year convention, June 2, for this purpose.

WASHINGTON

Concentrated action of building interests at Washington, D. C., is making for encouraging operations in the construction line, with home building, of course, the center of attraction. Numerous projects of this character are developing and the season now seems to have "hit its stride" in a good way. It is pleasing, too, to note that the majority of new residences are of substantial type, utilizing brick and other fireproof materials in the construction.

To make Washington a model residential city is the aim of a bill which Senator Wesley L. Jones has introduced in the Senate. The measure provides for a bond issue of \$6,000,000, to be expended for the erection of enough small model homes to empty every present alley home in the district. The District committee of the Senate is now giving careful consideration to the plan. There are now about 10,000 "alley" dwellers in the community as against approximately 18,000 in 1914, when a bill to eliminate buildings of this nature was passed.



The Brick and Burned Clay Markets

There is not much to be said regarding the material markets in eastern centers; the lack of certain important building commodities is having the general effect of lessening the call for other materials, as to be expected; one product or more is not of much service when other necessities cannot be secured in desired quantities. At the same time there is a good healthy tone to the demand, and as soon as the market is again "open" as regards supplies, the strong call of the past few months will be resumed with a vim. Cities that have good supplies on hand, such as Trenton, N. J., Baltimore, Md., and other sections, are enjoying a good business, and dealers are quite optimistic as to the outlook.

The call for common brick is not so keen as it might be at New York, but this is attributed to the fact that other materials needed for building are not available. The price is holding well at \$25 a thousand in cargo lots along-side dock, with dealers maintaining the price of \$30.45 delivered on the job in the first zone. During the past fortnight, about 49 cargoes have been received from the Hudson River yards, but this allotment has by no means been distributed; the sales

approximate well on to 40 cargoes, with the bulk of consumption in the Manhattan area; there are a number of cargoes still available, 20 or more, so the community is well supplied with this basic material. New Jersey is also drawing on the local market for its requirements, and during the period noted about 8 cargoes have been sent into the northern districts.

There is no change in brick prices in any of the New Jersey cities, or in fact in any of the important eastern centers. Newark, N. J. dealers are asking \$32 a thousand delivered for good grade material. At Jersey City, yard prices are around \$28 a thousand, with slightly over the \$30 mark for delivery on the job. Paterson is undergoing rather extreme flexibility in quotations, some dealers asking \$32 and others as high as \$35. In the vicinity of Plainfield, and the neighboring Raritan River section, the price is \$33 a thousand. At Trenton, a figure of \$26 and \$27 is being maintained for delivered material.

Philadelphia, Pa., is holding to an average of \$25 brick, and the same quotation prevails at Wilmington, Del., and Baltimore, Md. Washington, D. C. is enjoying about the lowest figures for common brick in the eastern district; some of the manufacturers are asking \$23 delivered, while others ask slightly more, a fair average being around \$24.

Fire brick is operating under a firm demand in the various eastern cities, with prices holding well at present level. The call for this material seems likely to make for slight price advances, and this is true, as well, of fire clay. At New York, standard No. 1 fire brick is selling for \$75 a thousand, delivered; in New Jersey, the price range is from about \$65 upwards, an average figure being about \$70; at Philadelphia, the \$70 figure maintains, while at Wilmington, Del., and Baltimore, Md., \$75 is asked.

The general burned clay product market is rather a precarious one as regards supplies and price quotations in the eastern districts. There is a shortage of many commodities, such as partition tile, drain tile, etc., brought about thru the freight conditions, and consequently dealers are making no promises as to deliveries, reflecting the word passed to them by manufacturers, and as to prices, these are stipulated as "at time of shipment." With the easing of the freight situation, relief is expected at an early date.



With the Brick and Burned Clay Producers

A number of the Hudson River brick yards are now engaged in actual production. The point of manufacture is far below that of normal, averaging anywhere from 30 to 60 per cent. of regular output. The smaller plants are more active than some of the larger yards, and probably because their reserves have been exhausted. The big yards are moving rather slowly because of the uncertainty of conditions. A number of such plants have fairly good stocks on hand, left over from last season's run, and are really in position to meet all current demands. At the same time, a little vision must be used, for brick cannot be turned out in a day, and other seasons are coming.

Among the well-informed brick men in the New York district is William K. Hammond, with yards in the Hudson River district. In discussing conditions as they stand today, Mr. Hammond says that the big watch-word is "produce" and he is employing this doctrine in his own business. In mentioning brick prices and rising costs of production, it is set forth that the barge captains operating on the Hudson River have just received another advance, with wage scale now totaling \$165 a month; this is more than \$100 in excess of the prevailing rate of a year ago, when a figure of \$63 was current. From this the amount jumped to \$115, then \$125 and following, \$140, with the \$165 rate effective on May 17.

Brick handlers at the New York docks have also recently been granted an advance of \$1.00 a day.

Hackensack and Trenton, N. J., yards are active and production is under way at a good rate. The rainy weather of the past fortnight has proved a handicap with the seasonal yards, and the rather cold wave for May days has also been a handicap. Current indications point to a fine season in the matter of sales, with good level prices holding. It is for this reason that every effort is being made to turn the days to account, making each productive of a certain amount of stock. Labor is not any too plentiful and no little concern is expressed in this direction.

Henry Gardner, one of the enterprising and progressive brick manufacturers in the Hackensack district, with yard at Little Ferry, N. J., views the outlook in great favor, holding that it is the "brightest" as has been seen in some time past. It is believed that the call for common brick is bound to continue and accordingly it is planned to have a heavy season run at this yard. The company has orders on hand for material running until after the middle of the year and four motor trucks will be placed in constant service on the delivery end. During recent months a number of improvements have been made at this plant, including additional pallets, automatic conveyor system for handling brick in the yard and minor betterments. Things are in fine shape to go forward at a good clip, and this is just what the company is going to do.

The New York Clay Co., Sayreville, N. J., has been organized under state laws to engage in the manufacture of brick and general clay operations in this section—the home of the Sayre & Fisher Brick Co. The company has a capital of \$50,000, and is headed by Russell E. Watson, A. Dudley Watson and M. A. Harkins. The second party noted, A. Dudley Watson, will act as registered agent.

The Watertown Brick Co., Watertown, Pa., is planning for the erection of a new building at its yard. The structure will be located on Main Street and will be used for office service. Naturally, it will be of brick construction. This is one of the active companies in this section, with local producing works.

The Christian Clay Products Co., Wilmington, Del., has filed notice of increase in its capital from \$100,000 to \$150,000 for proposed expansion.

Correction should be made regarding a statement appearing in these columns in issue of *Brick and Clay Record* of April 29 concerning the Maryland Coal Co., and its properties at Lonaconing, Md. It was set forth that negotiations were under way for the sale of land, and J. W. Galloway, president of the company, calls attention to the fact that this is not the case. Moreover, it is stated that local clays used in the manufacture of fire brick are available in good quantity in this district. The company has a large field of high grade plastic clay in the Mount Savage section for this purpose, and the prospecting which has been under way has opened up good bodies of hard or flint clay as predominating in this region; it is simply a matter of getting the material from the banks to the plant. The company has recently removed its headquarters from 1 Broadway, New York, to offices at 25 Beaver Street.

The Builders' Union Brick Co., New York, has been organized with a capital of \$100,000 to manufacture common brick. The company is headed by W. T. Hookey, Jr., C. Z. Bernard and E. Agnew, 605 West One Hundred and Forty-first Street.

The Chesapeake Terra Cotta Co., Baltimore, Md., manufacturer of terra cotta specialties with headquarters at Wicomico and Clare Streets, has closed negotiations for the sale of a city block of real estate bounded by Wicomico, Monroe Elk and Hamburg Streets for a consideration of about \$69,000. The site was purchased by a local real estate concern.

The State Department of Internal Affairs, Harrisburg, Pa., has compiled figures regarding the industries of Centre County for 1918. During this year, it is shown that five clay works and fire brick plants in this county gave employment to 478 men, who received total wages of \$419,100. The aggregate value of production was \$1,914,500.

The Philips-Harper Co., Trenton, N. J., is rapidly becoming a very prominent factor in the burned clay industries thruout New Jersey and in other sections of the East. The company handles a complete line of material of this kind, ranging from common brick, face brick, etc., to flue lining, hollow tile and the like. The concern is now representing a total of over fifty manufacturers of clay products of all kinds, and among those for which the organization acts as exclusive agent in its territory are the Sayre & Fisher Co., Sayreville, large manufacturers of brick; M. D. Valentine & Brother Co., Woodbridge, manufacturer of high grade fire brick, and the American Hollow Tile Co., Hightstown, N. J. The company has recently perfected arrangements to take over the entire output of the plant of the Raritan Clay Products Co., at Keasbey, in the Raritan River section. Reference to this latter concern was made in the last issue of *Brick and Clay Record*, explaining negotiations as perfected for the acquirement of the plant by new interests. This works has a capacity, it is stated, of about 200 car loads of hollow tile per day when operating at maximum, and the material will be distributed by the Philips-Harper Co., to its customers in the vicinity of New York and Northern New Jersey.

The Superior Brick, Tile & Coal Co., Wilmington, Del., has been formed with a capital of \$500,000 to manufacture com-

mon brick, building tile and kindred specialties, as well as engage in clay-mining and coal mining operations. The local incorporators are M. M. Nichols, M. L. Rogers and W. G. Singer, all of Wilmington.

The Howard Refractories Co., Dorsey, Md., is planning for extensions in its plant, including considerable betterment work for increased output. The company is one of the active concerns in this district, and as announced recently, has increased its capital from \$150,000 to \$300,000 for general expansion. A fine grade of fire brick is manufactured and production is being handled under a keen call. A. Wolf is secretary.

Business continues good with the West Brothers Brick Co., Washington, D. C., and there is no slackening in the demand for the company's output. Large deliveries are being made for local operations, these being handled from the company's plant, near the Virginia line, by means of motor trucks. With inquiries coming from Maryland for material, it is likely that operations would be extended to this district but for the fact that motor truck licenses for foreign concerns in this state are now at a prohibitive figure. Present prices are in the neighborhood of \$21 a thousand, delivered.

The Chesapeake Fire Brick Co., Elkton, Md., recently organized with a capital of \$250,000, is making active preparations for operations in this section. Arrangements have been perfected for a waterfront site for the proposed plant, which will be devoted to the manufacture of high grade refractories. Options have been obtained on extensive clay properties in the vicinity of the new works. George S. Hoell is president of the company.



RARITAN CLAY MINERS MIX BUSINESS *and* PLEASURE *at* PERTH AMBOY MEETING

THERE'S NEVER A MEETING of the New Jersey Clay Miners' & Manufacturers' Association that doesn't seem to be a profitable one, and the gathering at the Raritan Yacht Club, Perth Amboy, N. J., Thursday evening, May 20, was no exception to the rule. For an "off date" meeting, as this might be termed, there was a fine attendance; just the comfortable number, around 45, that allowed a real "family" spirit to prevail.

This organization, with headquarters at Perth Amboy, is a real live growing body. It is composed of clay miners and others engaged in all branches of the ceramic industry thruout the Raritan section—a district of clay-working activities that needs no introduction to those who keep abreast of the times; and as for fine plastic clays, but little need be said. The clay production hereabouts speaks for itself.

Between the dates of the annual meetings of the association, usually held in December of each year, a number of general get-to-gether gatherings are called; and it was just such an event as marked this May-time meeting. During the year, various executive sessions are held as conditions may require. It is this frequent interchange of thoughts and ideas that makes the organization such a thriving one—that makes it a real influential body in local clay-working circles.

It was a happy thought of the Executive Committee to hold the present meeting at the quarters of the Raritan Yacht Club on Water Street, for this is a garden spot, overlooking the waters of the bay, and lending a delightful environment to the occasion. The dinner, which preceded the business and entertainment of the evening, was thoroly

enjoyed, too. It was a fine repast, and this means a whole lot; the shortage of waiters went to remind those present of the current shortage of labor in the clay industries in this section, so there was no "kicking," even if the different courses of the meal were a little slow in arriving.

RECENT EXECUTIVE MEETING

In calling the meeting to order a little after 8 o'clock, President L. H. McHose asked the secretary for a reading of the minutes of the last session of the Executive Committee, held at the East Jersey Club, Perth Amboy, on May 12.

In this it was set forth that those in attendance were: C. W. Crane, chairman; August Staudt, C. Von Hartz, Fred Whitaker, John Pfeiffer, Mr. Hadfield and M. M. McHose, secretary. Mr. Crane presided.

The first subject to be discussed was that of public improvements, with decision to lay the matter over until a later date.

The next matter brought up was that of the Perth Amboy Industrial Association, and the following resolution was adopted and passed: Resolved, that after a careful investigation of the advantages offered by affiliation with the Industrial Association of Perth Amboy, this committee urgently recommends that the members of the New Jersey Clay Miners' & Manufacturers' Association take out individual memberships in the Perth Amboy organization. It is believed that this will help to make the work of the industrial association still more efficient, with greater representation of manufacturing interests in its personnel. Moreover, increased membership, in all probability, will

enable the industrial association to reduce its annual dues. It is urged that those interested notify the Industrial Association of Perth Amboy, asking for a representative to call upon them.

PERTH AMBOY INDUSTRIAL ASSOCIATION

President McHose said that the time seemed opportune for a further discussion of the anticipated movement to join with the local industrial association and called upon Mr. Pfeiffer to explain the proposition to those assembled.

Mr. Pfeiffer set forth that the local industrial association was designed to help manufacturers and industrial interests in every possible way, covering labor, legislation, civic affairs and the like. It is a banding together of employers so that effective and decisive action can be taken as desired in important matters. The work of the industrial association commences just about at the point where the operations of the local Chamber of Commerce stop. All branches of business are included, and as the association is but of recent origin, an effort is being made to increase the present membership of 21 concerns to a really representative body—one that will be of sufficient size and strength to be recognized in any movement undertaken.

It was explained that the membership dues were now arranged on a basis of one dollar per year per employe, with a minimum fee of \$50 a year and maximum of \$500. In other words, the company affiliated having say 100 employes would pay \$100 a year, or less than 50 operatives, the minimum of \$50 a year. It is estimated that it will require about \$5,000 a year to carry on the work of the organization and as there is no intention to establish a reserve of any appreciable account at the present time, the larger the membership the more it will be possible to reduce the dues in proportion.

Mr. Pfeiffer said that the time had come when employers must take an interest in outside affairs, call it "politics," if you will, and band together for mutual good and welfare. Joint work is needed, he pointed out, in connection with labor demands and dissensions, with regard to proposed new laws that affect the employers' interests vitally, and so on. It is not fair nor right, he said, to leave all of this work to the "other fellow," every man must do his share. He showed the progress made by labor in combined activities, and said that employers must engage likewise if any progress in the right direction is to be made.

Concluding, he said that the work of the Perth Amboy Industrial Association was by no means local, that the benefits would be derived to all outlying districts, such as Metuchen, Woodbridge, Chrome and so on. Therefore, in his opinion, ceramic men in these districts should become connected with the movement, which, under desired auspices, will be sure to accomplish immeasurable good.

Charles A. Bloomfield was asked for his views in the matter by President McHose. He said that he was not entirely familiar with just what had been going on in this direction, but he believed that any concerted action to help employers in any way was highly important and vitally necessary. He said that the present immigration laws barred the "pick and shovel" man from this country, and that efforts must be made to have amendments to this law by Congress letting down the requirements in matter of education, as now required. He said that until this was brought about a serious labor shortage would prevail.

He pointed out that the local Raritan Arsenal of the Government, now arranged as a permanent institution, was playing havoc with clay miners and others in the matter of labor. The arsenal wants men, he said, and no effort is being spared to get them, no matter from whence they may come. The wage scale at this arsenal is now from 45 to 60 cents an hour, and accordingly, local employers must meet

this price if they want to get any help, and regardless of the exact nature of the business, whether clay mining, sand and gravel production, manufacturing or what not. There is bidding for men, too, and therefore labor is feeling mighty independent in the Raritan River section at the present time. Moreover, it is a current boast among laborers that at the arsenal one doesn't "have to do a day's work in a week"—so what's the answer for the individual employer?

In conclusion, he said that the time had come for an organization of the so-called middle classes, and of such strength and proportion as would allow business to proceed without current serious interruptions from this or that cause.

CONCERTED ACTION NECESSARY

With further discussion of the subject, it was brought out that the Raritan Arsenal and its demands for labor have gone to reduce many a working force at local clay properties. The average wage for ordinary labor is close to 55 cents an hour, while at the magazines, a 60-cent hour schedule prevails.

A new reservoir is now to be constructed in this section, and a call is expected for about 300 men to engage in this project. It was pointed out that clay men in the district are again likely to suffer a loss of employes here, as the work is of a character that requires labor used to outside operations, and what is more logical than a draft of clay-mining labor?

It is in regard to such matters as these that the Perth Amboy Industrial Association proposes to be active, protecting its members, and even those who may not be affiliated, from activities of this character which work to their detriment.

President McHose made a few appropriate remarks at the end of this discussion, setting forth that now was the time for concerted action on the part of business men and employers. Something must be done to stop the continual wage advances and other annoyances to progress. He said that it has been brought to mind forcibly of late the necessity for selecting the right kind of men for the state legislature, and that this was a matter in which every man must show and take an interest.

As to the movement to join the local industrial association, he said that in his opinion this was a proposition which must be considered individually by each employer, and not one upon which unit action could be taken. The matter, therefore, was left in abeyance on this basis.

PLATFORM FOR AMERICAN INDUSTRY

Frank R. Valentine took occasion to mention the work of C. W. Crane, a member of the association, in connection with the proposed platform for American industry to be written into the planks of the Republican and Democratic parties, saying that the organization should feel honored to have the father of such a national movement as one of its prominent members. He asked Mr. Crane to say a few words to those assembled.

Mr. Crane, modestly, declined to accept the position as "father" to the platform for American industry, saying that while he had been instrumental in this work, many other minds had been working on the subject. The idea, he said, had been in his mind for some time past.

He explained that the matter was brought now to a definite conclusion by the adoption of a "platform for American industry," at the recent convention of the National Association of Manufacturers at New York. This platform, he pointed out, would be carried to the Republican and Democratic conventions for submission for incorporation in the national platforms.

The idea of the Perth Amboy Industrial Association appealed to him, he said, as a good one, and he suggested that those present give careful thought to the proposition. He spoke of the demands of labor for increased wages, and mentioned that at his clay properties in the Raritan River section, effort was made to "beat the employes to any wage advance" when it was in the wind, as this went to save time and money in the end, and eliminated unnecessary debates.

INCREASED WAGE FOR POSTAL EMPLOYEES

As a matter of final business for the evening, August Staudt read a printed circular which had come to him, requesting local business interests to use their influence in obtaining better wages for postmen and other employes in the postal department.

A motion was made and seconded that the secretary of the association be authorized to write to senators and congressmen from the state urging their support for any bill that might be introduced along these lines.

The subject of a date for the next meeting of the organization was discussed briefly, and it was decided to leave this matter to the judgment of the executive committee.

AND THEN THE ENTERTAINMENT

A little past nine, and business was "thrown to the winds" for a musical program was on the slate. And not only this, but a clever monologist joined forces with vocal and instrumental selections to keep the audience in mighty good cheer until well on to 11 o'clock.

Among those in attendance were: L. H. and M. M. McHose, McHose Clay Co., Perth Amboy; C. W. Crane, the Crossman Co., South Amboy; Charles A. Bloomfield, Bloomfield Clay Co., Metuchen; Milton Edgar, Edgar Brothers Clay Co., Metuchen; F. W. Schmidt, Didier-March Co., Perth Amboy; August Staudt, Perth Amboy Tile Works, Perth Amboy; F. R. Valentine, M. D. Valentine & Brother, Woodbridge; F. F. Anness, Anness & Potter Clay Co., Woodbridge; W. Guy Weaver, Perth Amboy; E. C. Dalrymple, Raritan Ridge Clay Sand Co., Metuchen; John Pfeiffer, Henry Maurer & Sons, Maurer; James J. Livingston, Jr.; C. Pfeifford; Mr. Wallace; C. Von Hartz, Didier-March Co.; Fred Whitaker, General Ceramics Co., Keasbey; A. Ammann, Such Clay Co., South Amboy; R. L. Clare, Federal Terra Cotta Co., Woodbridge; George Valentine; M. F. Nagle; Otto W. Will, Roessler & Hasslacher Chemical Co., Perth Amboy; J. T. Ryan; Henry F. Koch, Perth Amboy; Ira Crouse; W. G. Demarest, Metuchen; Mr. Olsen; Mr. Griswold; Mr. Hill; Mr. Alcan; Mr. Witte, Didier-March Co.; Mr. Cutter; Mr. Ducherly; Mr. Campbell; and LeRoy W. Allison, eastern editorial representative, *Brick and Clay Record*.



Your Liberty Bond

The United States Government borrowed money from you to finance the war. You hold the Government's promise to pay you back. This promise is called a Liberty Bond or Victory Note. On this bond is stated the conditions under which the Government borrowed the money from you.

For instance: If you hold a bond of the Third Liberty Loan, it states that on April 15 and October 15 of each year until maturity, you will receive interest on the amount you paid for the bond. Other issues bear other rates of interest and other maturity dates, all of which are clearly stated on the bond.

Now, if you keep your bond until the date when the Government pays you in full for it, you do not need to worry if, in the meantime, the price is low one day or high the next.

You and Uncle Sam are living up to your agreement with each other, and neither will lose by it.

On the other hand, if you sell your Liberty Bond now, you will find that the man you sell it to will not give you a dollar for every dollar you paid for it. The price has been brought down because so many people are offering to sell their bonds. If the market is flooded with tomatoes, you can buy them cheap, but if everyone is clamoring for tomatoes and there are few to be had, the price goes up. The same is true of Liberty Bonds. Short-sighted people are dumping them on the market, and wise ones are buying them.

The best advice that can be given to the owner of a Liberty Bond is this: Hold the bond you bought during the war; it is as safe and sound as the United States Government itself.

Buy as many more at the present low rate as you can afford. If you hold them to maturity, you are bound to make the difference between what they sell at now and their face value. You will also receive good interest on your investment.

Hold on to your Liberty Bonds and buy more.



Sound Thinkers Needed to Solve Transportation Problem

R. W. Woolley, member of Commission, said in an address before the National Bureau of Wholesale Lumber Dealers in Chicago, May 19: "This is a time when the goodly offices of every governor, mayor and State commissioner, of every other sound thinker, of every broad-visioned man are not only needed but must be made immediately available. By their action of Saturday last, when they petitioned the Commission to exercise emergency powers as to handling of equipment, issuing of priority permits and ignoring of instructions in routing of freight, granted in Transportation Act, the railroad presidents put up to Commission the job of moving approximately 235,000 cars now victims of transportation paralysis, of starting a steady flow of food and fuel to the needy, which is rapidly coming to mean everybody."



Large Face Brick Order Placed in South

The F. Graham Williams Brick Co., Atlanta, Ga., have recently sold what they believe to be the largest order for face brick ever placed in the South. The contract has been closed to furnish face brick for the William Candler Apartments in Atlanta. This job will require about one million and a quarter brick, which will be furnished by the Kittanning Brick & Fire Clay Co. The company has also sold the Golden Buff "Fisklock" brick made by Fiske & Co. for the Georgia Baptist Hospital and Nurses' Home in Atlanta, this job requiring about 850,000 "Fisklock" brick.



Urges Repeal of Excess Profits Law

Reports of various committees at the twenty-fifth annual convention of the National Manufacturers' Association in New York, May 17, urged the repeal of the excess profits law, enactment of national bankruptcy act, establishment of a system of general industrial education and voluntary curtailment by individuals in consumptions and expenditures so as to eliminate need for governmental loans.



"Any successful firm or corporation asking the public's confidence and cooperation, should acknowledge same with a 'thank you'—otherwise, the public may not realize its appreciation."



In Perfect Condition

That's what you like to pronounce your output of ware as it leaves the dryer for the kiln, but IS IT, under your present drying system?

We positively guarantee our STOVE ROOMS AND MANGLES to—

Produce a uniform dried product with a uniform shrinkage, eliminating waste and cracked ware to a minimum.

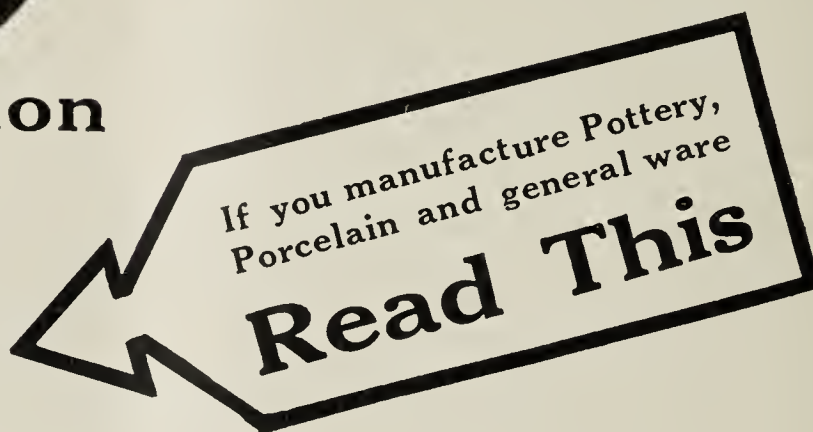
—Provide absolutely the proper circulation and distribution of heated air to thoroughly dry your ware cutting the drying time 50%.

—Furnish the dryer complete with all necessary equipment, ready to connect to steam line.

Ceramic Equipment Company

Trenton, N. J.

Subsidiary of Proctor & Schwartz, Inc.

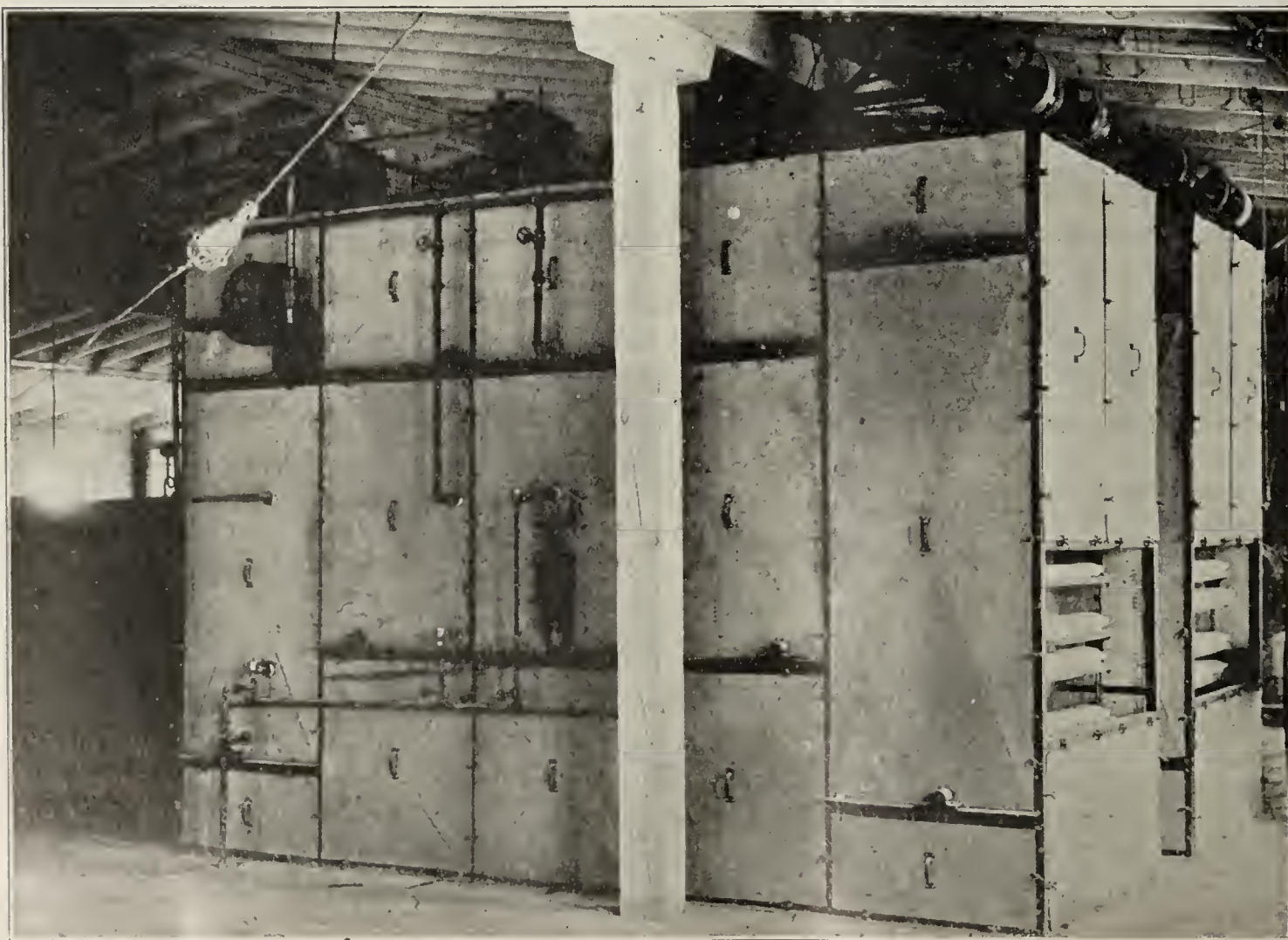


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Drying

THE WHOLE REPUTATION A
PROCTOR and SCHWARTZ



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Dryers

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If you manufacture any kind
of Brick or Tile

Read This

Proctor Dryers in Your Plant Mean—

Bone dry brick before they go to the kiln because every piece of ware receives the same uniform treatment in the drying.

The special means of recirculating and distributing the heated air not only does it quickly, cutting the drying time one-half of your present system, but guarantees you safe drying, producing practically 100% perfect, sound brick.

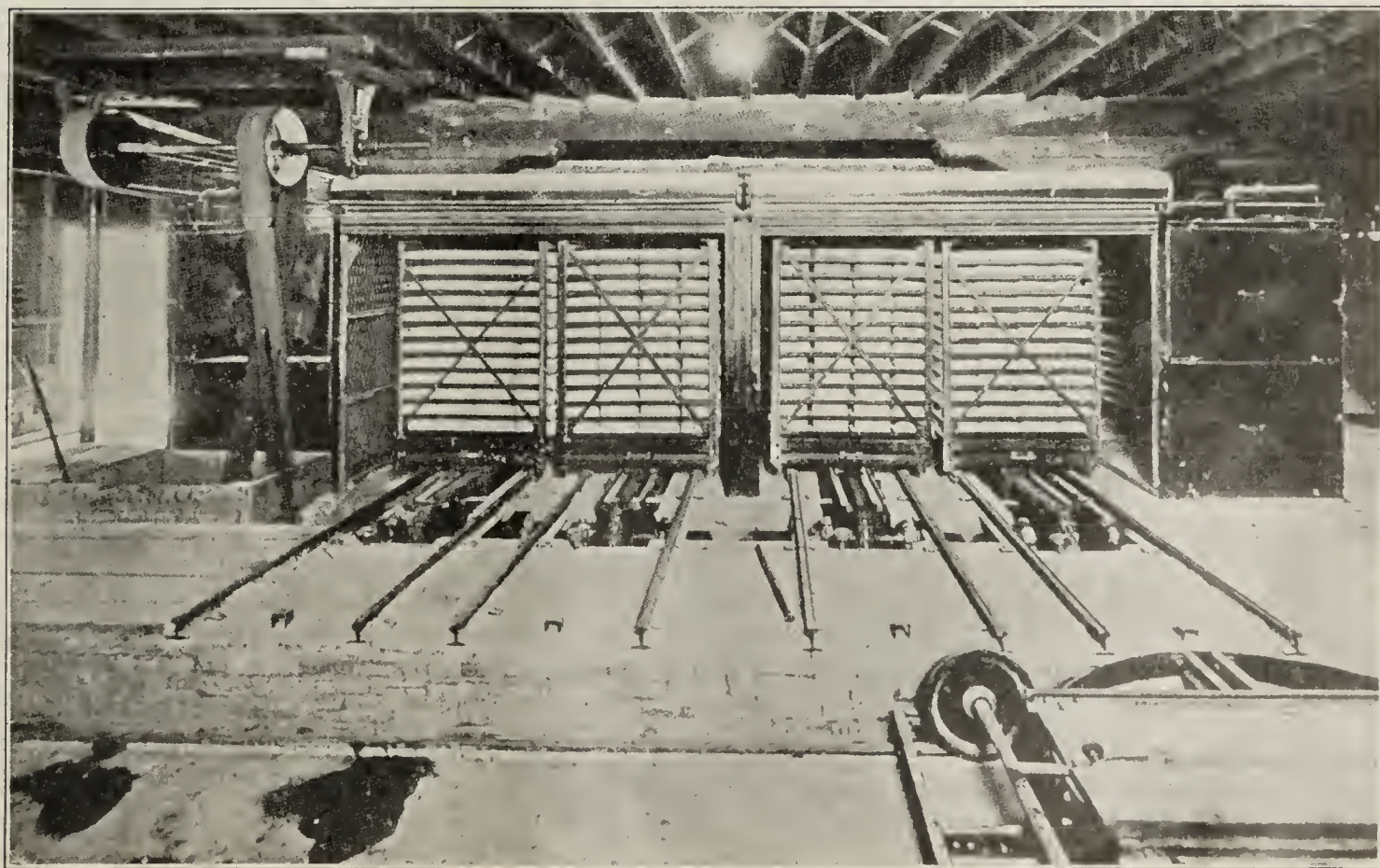
The PROCTOR DRYER is compact, covering very little floor space—reduces labor to a minimum, puts your drying department in line to successfully aid in speeding up production in your plant.

Write for data today

Proctor and Schwartz, Inc.

Formerly Philadelphia Textile Machinery Co.

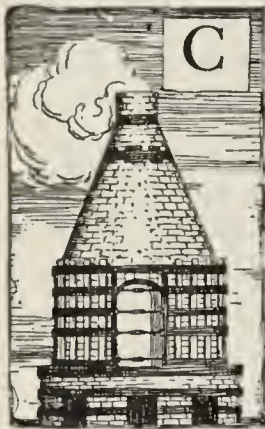
Philadelphia, Pa.





A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products Such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

POTTERY INDUSTRIES IN THE SWATOW DISTRICT, CHINA



CHINA AND EARTHEN WARE are made in the Swatow consular district to meet the demands of the export trade as well as to supply a large portion of the local market requirements. The export statistics, according to the customs returns, are as shown below.

The bulk of these products is sent to the South Seas, the Straits Settlements, and Siam, chiefly for the use of the large Chinese communities there, the earthenware usually being exported in the form of containers for food and other products.

The chinaware manufactured in this region is generally of an inferior quality, and is made into articles of everyday use. The making of earthenware is of ancient origin, while the chinaware industry was started only some 30 years ago.

In the village of Fengchi, about 3 miles south of Chaochowfu, the sole industry is the making of earthen and china ware, in which over 2,000 workers are employed. All the work is done by the piece, the wages of workmen ranging between \$0.36 and \$0.72 per day. Women and children helpers receive less.

MATERIALS USED AND METHODS EMPLOYED

The clay for the earthenware, which is dark brown in color, is secured near the village. At some places the top soil of arable fields is removed temporarily and the clay beneath obtained. The potter's wheel, operated by the hand or foot of the potter, or by a boy helper, is used for forming the pieces, large and small, but in the case of large pieces sections are made first on the wheel and the finished article produced by pounding or hammering the sections together. All kinds of household receptacles are made. The annual production at this village is estimated at \$200,000.

The clays used in making chinaware are obtained in the hills near Chaochowfu and are carried by boat to Fengchi at

a small cost. It is understood that a much better clay is found in the Hakka region.

The manufacture is carried on by native methods. The white hard-lump clay is pounded by man power, usually in a rice-polishing mortar, for 48 hours, after which it is soaked in water, strained, and sun-dried. The other variety of clay dissolves in water without pounding. Both require kneading before being molded and shaped on the potter's wheel. A first-class laborer working 12 hours a day can turn out 200 bowls or saucers, and an ordinary workman can turn out about 100 pieces. If machinery were introduced the output could be increased two or three fold. The articles made are principally cuspidors, teapots, wine pots, joss vessels, flower vases, and water jugs. The coloring matter, chiefly blue, is imported, and costs about \$3 per pound. The annual production of chinaware in this village is estimated at \$300,000.

There are about 20 kilns at Fengchi, all of the cylindrical staircase type. They are fired with pine branches brought from the Hakka country, the firing lasting 24 hours for chinaware and 36 hours for earthenware. During the first half of the time the kiln is fired at its base, at each of the holes on the sides of the roof of the kiln. When burning chinaware each piece is placed in a perforated earthenware case for protection against the firing. After the firing the kiln must be allowed to cool before the contents can be removed and other material put in. The cost of building such a kiln is said to be about \$2,000.

DECORATING AND GLAZING—MARKET FOR COLORS

The decoration of chinaware is done both before and after firing, and sometimes there is a second firing after the coloring process, but this is not common. Foreign colors are used, altho some native makeshifts have been employed, owing to the scarcity and high cost of the foreign colors. Blue is the principal color, but red, white, green, and black are also used. The glaze is said to be produced by treating the article with a solution made of mussel shell lime, which has been burned with rice husks.

Manufacturers state that the annual market for colors amounts to between \$20,000 and \$30,000, and that they have had some difficulty in securing suitable ones. It is suggested that interested American manufacturers might find it to their advantage to look into the situation.

OUTPUT OF THE FACTORIES ABOUT KAOPI

The factories about Kaopi are situated from 9 to 27 miles outside the city. There are about 2,000, varying in size from those worked on a capital of a few hundred dollars, to those with a capital approximating a thousand dollars. Together these give employment to over 7,000 men, in addition to the women and children employed in carrying. The wages are lower than those paid at Fengchi, and vary from \$0.21 to \$0.72. The working hours do not exceed 10 hours a day. The raw material is obtained from nearby places, that produced at P'ing Yuan and Sha P'ing is said to be the best. The Sha P'ing is whiter and tougher. Fuel is also produced locally and costs only 25 cents for 133⅓ pounds, making a complete firing of

Year.	Chinaware, coarse and fine.		Pottery and earthenware.	
	Tons.	Value.	Tons.	Value.
1916	4,759	\$956,137	9,023	\$393,472
1917	2,992	812,805	8,662	478,423
1918	2,644	857,898	5,446	346,284

a kiln cost about \$18. Pounding is done by water power and takes 48 hours. The process is similar to that of Fengchi, except that vats instead of cisterns are used. The products are chiefly bowls, saucers, and cups. The kilns are also cylindrical, but comparatively small, and on account of the topography of the country do not cost more than \$300 each to construct. The crockery handled by Kaopi exporters amounts to about \$600,000 annually.—*Commerce Reports*.



Prospects of Porcelain Industry at Nagoya

One of the leading commission merchants in Nagoya, dealing principally in the export of porcelain to the United States, informed Consul H. F. Hawley, Nagoya, Japan, that future prospects in the industry are now regarded as extremely good. He anticipates that for several years to come manufacturers in this district will have orders, particularly from America, that will keep them employed to their maximum capacity. To substantiate this belief he states that not only are American customers placing larger orders than formerly, even at prices representing an advance of 250 per cent., but that American agents for German houses are now coming to Japan for porcelain because of their inability to get supplies from Germany for their former American customers.

This merchant states further that porcelain manufacturers in this district who have hitherto been reluctant to make firm quotations for future delivery are now definitely contracting on the basis of present prices, which they believe represent the maximum, their feeling being that neither wages nor materials will make considerable further advances, and that quotations may be based thereon without likelihood of loss to them. In fact, if any, the present trend of the market is downward.



English Potteries Suffer Coal Shortage

Roy H. Minton, of the General Ceramics Co., who is now visiting European countries with a view of inspecting ceramic plants, sent *Brick and Clay Record* a clipping from the May 8 issue of the London "Times," which depicts the conditions with regard to coal in the potteries of England. The item states:

"The pottery industry is inundated with orders both for the home and export trade, but owing to the coal shortage the output is only equal to a fraction of the demand. As a result valuable business has to be refused and the export trade, notably in Australia and New Zealand, is passing to Japan.

"The industry is rationed on the basis of June, 1917, when, owing to war conditions, production was at a low level. The present allotment of fuel is, therefore, totally inadequate for requirements. The sanitary ware and tile branches are affected the most, because these sections of the industry were greatly depressed during the period taken as the rationing basis, consequent on the prohibition of building, but now all departments have a glut of orders. Given an adequate supply of coal the output could be increased from 33⅓ to 150 per cent. in different branches of the industry, and exports could be doubled.

"A deputation from the National Council of the pottery industry last week made representations to the coal control authorities at Birmingham, and some hope is entertained of a fairer allotment of fuel. In the meantime a number of manufacturers are installing gas-fired ovens with the object of economizing coal and enlarging output, but this change is largely experimental, and even if successful cannot materially affect fuel consumption for some years. Moreover, gas-fired ovens are only applicable to larger

works, and smaller factories must continue to use coal-fired ovens."



Six Lectures of Interest to Pottery Men

Professor George H. Brown, Director, Department of Ceramics, Rutgers College, New Brunswick, N. J., has been giving an interesting series of lectures at Trenton, N. J., before the members of the Superintendents' and Foremen's Association of the local branch of the Sanitary Potters' Association, at the School of Industrial Arts. The course comprises a total of six lectures on such subjects as "Saggers," "Sulphuring of Glazes," "Preparation of Casting Slips," "Pottery Flints," etc., being given on Friday evenings. Professor Brown is also directing a course of instruction in ceramics, with evening classes at this school. Considerable interest has been secured from the young men employed at the local potteries in this work, and a fine attendance has been enjoyed.



Will Install Fuel Oil Burners

At the annual meeting of the Bedford China Co., Bedford, Ohio, held May 17, some changes in the official personnel and directorate were made. The officers are: President, F. B. Burch, Akron; Vice-President, A. H. Wilson, Canton; Secretary, C. B. Reddrop, Cleveland; Treasurer, William Dunbar, Cleveland. Directors include the officers and Harry Bailey, Charles Nims and J. I. Callahan, of Cleveland, and R. N. Walker, Akron, and H. H. Line, Kent.

Among the changes in plans for production approved at this meeting were the installation of fuel oil burners for the kilns, instead of the gas producers. Three six-foot gas producers will be discontinued in place of the new devices.



East Liverpool Pottery District Active

There is considerable activity in the pottery districts in the vicinity of East Liverpool, Ohio. At East Palestine, the W. S. George Pottery Co., is perfecting arrangements for the erection of a new plant to give employment to about 200 persons. The Massillon China Co., Massillon, recently organized, is planning for the construction of a new pottery to cost about \$300,000. At Vermilion, the Monroeville Clay Products Co., has commenced the erection of a new plant to cost about \$500,000, including equipment. The Albright China Co., Carrollton, is reported to be negotiating for the purchase of the Scio China Co., operating a plant in this district.



To Manufacture Pottery

The Norfolk Pottery Inc. of Weymouth, Mass., has filed articles of incorporation and been granted a charter by the secretary of state. It has an authorized capital of \$25,000 and the incorporators are: Karl H. Granger and Arthur F. Richards of Weymouth, and Harold T. Patten of Quincy, Mass.



Active Relief Society at Pottery Plant

The Relief Society at the plant of the Thomas Maddock's Sons Co., Trenton, N. J., manufacturer of sanitary earthenware, is a very successful, growing organization. A meeting of the society was held on May 5, and a reading of the annual report showed a total of 410 members as against 217 at the same time last year. During the past year, a total of

199 weeks of sick benefits was paid, aggregating \$1,655 as against 248 weeks for the previous twelve months. The organization now has a balance in its treasury of \$3,163.87. An effort is being made to have all employes at the works affiliated with the society.



To Manufacture Pottery Specialties

The Densite Products Mfg. Co., New York, has been organized with a capital of \$20,000 to manufacture pottery specialties, tile, etc. The company is headed by L. and S. Carr, and E. M. Kaplan, 220 Broadway.



Will Build New Kiln Shed

The Keystone Pottery Co., New York and Olden Avenues, Trenton, N. J., manufacturer of sanitary earthenware, has arranged for the immediate erection of a new kiln shed on New York Avenue.

To Manufacture China Ware

Justin Tharaud, Inc., New York, has been incorporated with a capital of \$20,000 to manufacture chinaware and other ceramic products. The company is headed by J. and L. Tharaud, and N. Hawthorn, 25 West Broadway.



Will Build Addition to Plant

The Bowers Pottery Co., Mannington, W. Va., is planning for the erection of an addition to its plant for increased capacity. George W. Bowers is president.



The Mid-Continental Brick & Tile Co., of Sand Springs, Okla., has commenced operations with a large number of orders on its books.



"Multiplying words may confuse your goodly meaning; make it simple by saying 'Thank you.'"



CURRENT PRICES *of* COMMON BUILDING BRICK *from* SEVENTY-EIGHT CITIES

INASMUCH AS considerable interest has been manifested recently in common brick prices thruout the country, it has been deemed wise to make a compilation of current quotations for the benefit of our readers. The prices which follow are reported as *delivered on the job*. They are, therefore, in the very nature of the case, higher than the plant price. This should be taken into consideration in examining them.

If for any reason these prices do not seem to be in line

with conditions as they exist in the towns enumerated, and furthermore, if you have any information that would tend to prove these prices to be incorrect the editors of *Brick and Clay Record* will be very glad to hear from you. These are, however, quotations which are being given at the present time by agencies selling brick in the towns mentioned.

The foot notes are explained at the end of the following tabulation:

COMMON BRICK	Per M		
Boston, Mass.	\$29.25	Washington, D. C.	24.50
Portland, Me.	28.00	Baltimore, Md.	25.00
Providence, R. I.	35.00	Norfolk, Va.	23.50
Hartford, Conn.	30.00*	Richmond, Va.	25.00
New Haven, Conn.	35.00	Huntington, W. Va.	22.00
New York City	30.45	Fairmont, W. Va.	30.00
Albany, N. Y.	25.00	Wheeling, W. Va.	30.00
Utica, N. Y.	24.00*	Atlanta, Ga.	25.00
Syracuse, N. Y.	25.00	Miami, Fla.	44.00
Oswego, N. Y.	30.00	Tampa, Fla.	30.00
Binghamton, N. Y.	28.00	Frankfort, Ky.	24.00
Elmira, N. Y.	35.00	Louisville, Ky.	20.00
Rochester, N. Y.	19.50	Lexington, Ky.	25.25
Buffalo, N. Y.	30.00	Memphis, Tenn.	25.50
Jamestown, N. Y.	33.00	Nashville, Tenn.	19.50
Allentown, Pa.	22.00	Birmingham, Ala.	25.00
Philadelphia, Pa.	25.00	New Orleans, La.	22.50
Pittsburgh, Pa.	20.00	El Paso, Tex.	21.00
Scranton, Pa.	28.00	Houston, Tex.	25.00
Newark, N. J.	32.00	Dallas, Tex.	30.00
Paterson, N. J.	32.00	Topeka, Kans.	25.00
Trenton, N. J.	27.00	Little Rock, Ark.	18.00
Wilmington, Del.	25.00	Oklahoma City, Okla.	27.50
		Cincinnati, Ohio	22.00
		Cleveland, Ohio	25.00
		Columbus, Ohio	30.00
		Toledo, Ohio	32.50
		Evansville, Ind.	16.00
		Fort Wayne, Ind.	21.00
		Indianapolis, Ind.	22.00
		South Bend, Ind.	23.00
		Terra Haute, Ind.	19.00
		Bloomington, Ill.	22.00
		Chicago, Ill.	16.00
		Moline, Ill.	24.00
		Green Bay, Wis.	20.00
		Milwaukee, Wis.	20.00
		Minneapolis, Minn.	24.00
		St. Paul, Minn.	24.00
		Davenport, Iowa	23.50
		Des Moines, Iowa	34.50
		Sioux City, Iowa	20.25
		St. Louis, Mo.	20.00
		Lincoln, Neb.	20.00
		Denver, Colo.	19.50
		Butte, Mont.	16.00
		Los Angeles, Cal.	13.50
		San Diego, Cal.	18.50‡
		San Francisco, Cal.	17.50
		Portland, Ore.	22.50
		Seattle, Wash.	20.00
		Winnipeg, Man.	20.00
		Toronto, Ont.	18.00
		Halifax, N. S.	19.50
		Quebec, Que.	18.50

*Hartford, sold by mfrs. only; minimum price. Utica, Local, Soft.

‡Carlot rate, San Diego.

The SUPERINTENDENT

Helpful Hints for Practical Men
Whose Problem is Maximum
Production With Minimum Cost

Hangers for Standard Pipe

Some time ago there was published in "Power" some information regarding hangers for pipes from two inches in diameter up to twenty-four inches. This data is published below with the thought that sewer pipe manufacturers and plants having hot floor dryers might be interested in the accompanying figures which illustrate how the pipe may be supported together with the dimensions of the pipe hanger parts and the safe load it will carry.

DIMENSIONS OF PIPE-HANGER PARTS

Pipe Size, In.	Pipe Thick., In.	Band Width, In.	Clamp Thick., In.	Clamp Width, In.	Rod, Diam., In.	Bolts Band, In.	Clamp, In.	Safe Load, Lb.	Length 1/2 Band, In.
2	1/4	1 1/4	3/8	1 1/4	1/2	1/2 x 2	1/2 x 2 1/4	1,160	6
2 1/2	1/4	1 1/4	3/8	1 1/4	1/2	1/2 x 2	1/2 x 2 1/4	1,160	7
3	1/4	1 1/2	3/8	1 1/2	1/2	1/2 x 2	1/2 x 2 1/4	1,160	8
3 1/2	1/4	1 1/2	3/8	1 1/2	1/2	1/2 x 2	1/2 x 2 1/4	1,160	9
4	1/4	1 1/2	3/8	1 1/2	5/8	1/2 x 2	5/8 x 2 1/4	1,870	10 1/2
4 1/2	1/4	1 1/2	3/8	1 1/2	5/8	1/2 x 2	5/8 x 2 1/4	1,870	11
5	1/4	2	3/8	2	5/8	1/2 x 2	5/8 x 2 1/4	1,870	13
6	1/4	2	1/2	2	5/8	5/8 x 2 1/4	3/4 x 2 1/4	1,870	14
7	3/8	2	1/2	2	3/4	5/8 x 2 1/4	3/4 x 3	2,830	16
8	3/8	2	1/2	2 1/4	3/4	3/4 x 2 3/4	7/8 x 3 1/4	2,830	18
9	3/8	2	1/2	2 1/2	7/8	3/4 x 2 3/4	7/8 x 3 1/4	3,940	20
10	1/2	2	1/2	2 1/2	7/8	3/4 x 3	7/8 x 3 1/4	3,940	22
12	1/2	2 1/4	1/2	2 1/2	1	7/8 x 3 1/4	1 x 3 1/2	5,180	25
14	1/2	2 1/4	1/2	2 1/2	1 1/8	1 x 3 1/2	1 1/8 x 3 3/4	6,510	27
15	1/2	2 1/2	1/2	2 1/2	1 1/8	1 x 3 1/2	1 1/8 x 3 3/4	6,510	30
16	1/2	3	5/8	3	1 1/8	1 1/8 x 3 3/4	1 1/4 x 4	6,510	33
18	5/8	3	5/8	3	1 1/4	1 1/8 x 4	1 1/4 x 4	8,410	35
20	5/8	3	3/4	3	1 1/4	1 1/4 x 4	1 1/4 x 4 1/2	8,410	37
22	3/4	3	3/4	3	1 1/4	1 1/4 x 4 1/2	1 1/4 x 4 1/2	8,410	39
24	3/4	3	3/4	3	1 1/4	1 1/4 x 4 1/2	1 1/4 x 4 1/2	8,410	42

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Angle of Repose for Clay and Coal

The question has frequently been asked, "What angle will I require for a bin or chute to allow the material to slide down of its own weight?" Clay products manufacturers have frequent use for such information when they store their raw and ground clay, when they build chutes to feed the tailings from screens to the dry pans or the ground clay to the pug mill; and then again when coal storage bins are built, it is desirable to know the minimum angle required to cause the fuel to slide of its own accord.

There are several factors that affect the angle of repose—as the slope is called that is the minimum at which material will flow of its own weight. The size of the substance, kind of substance, weight, hardness, shape of grain, and material it slides upon all are factors which influence the angle of repose.

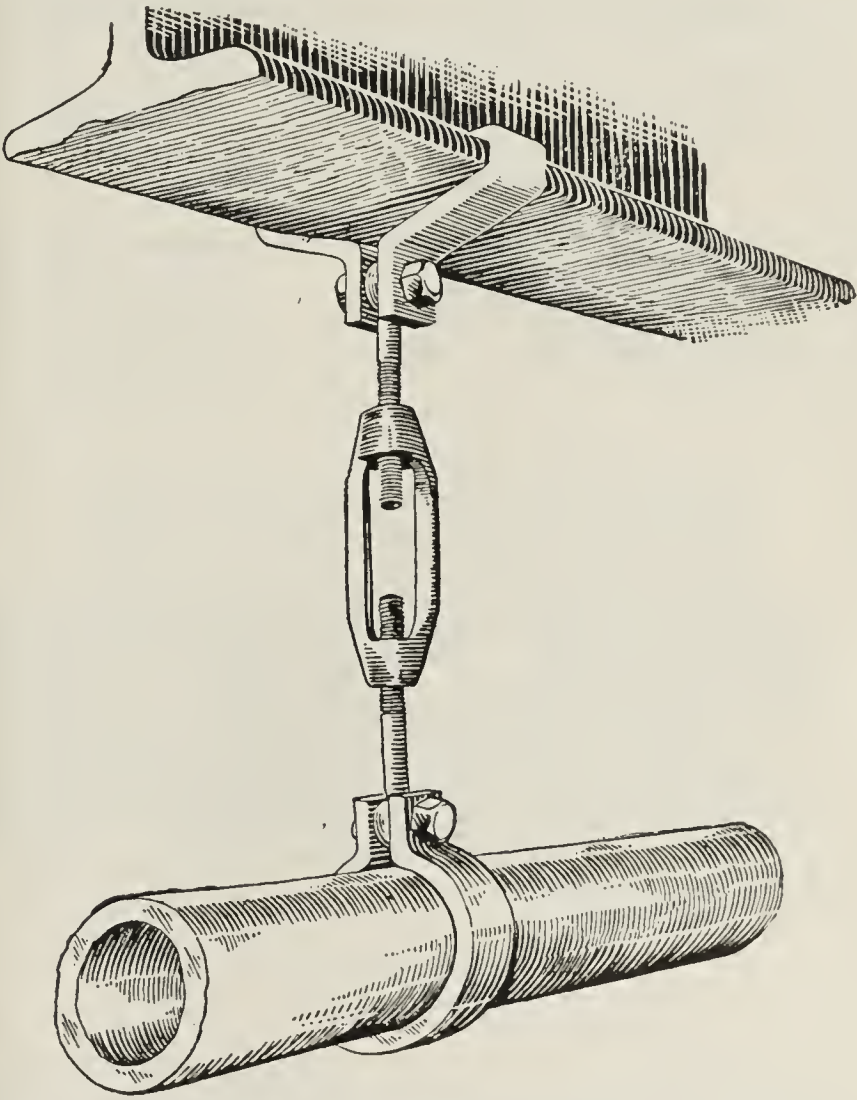
Gritty substances which do not pack will usually require a less angle than a soft fine grained material. Thus fire clay will flow more readily than a surface clay or shale. Cases have been known where clay has bridged and the material failed to flow even vertically.

It is of course obvious that a material will flow easier over a polished metal surface than over wood. And it is only natural to expect that heavier materials will flow more readily than light substances.

A case is known where mine run fire clay slides over a metal surface ninety feet long, the chute being at a low angle of 33 degrees from horizontal. This is unusually low

and while in this instance it is satisfactory, in general, a larger angle should be used. Perhaps one might say that 38 degrees is quite safe for ordinary purposes altho many engineers use the figure 45 degrees. Kidder's Hand-Book gives 36 degrees, 53 minutes as the angle of repose of dry clay. One would expect that ground clay will require a slightly greater angle than crude or lump clay.

With coal the angle of repose is affected by the size of coal. Some figure 40 degrees as the angle of chutes and bins to use in case of coal, altho 45 degrees is believed by many to be the best safe angle.



Sketch of a Standard Pipe Hanger.

Data of this kind is quite valuable in many instances and should any reader have more complete information on this topic, *Brick and Clay Record* would be pleased to receive it with a view to publishing it.

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New Trade-Mark Now in Use

All products of the members of the Permanent Buildings Society will soon be going out with the trade-mark stamped on every piece. The stamping wheels have been received and are now being issued to the members of the society. "IA-KLA" will soon be a well known trade-mark in the clay products field.



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BURN ANY COAL

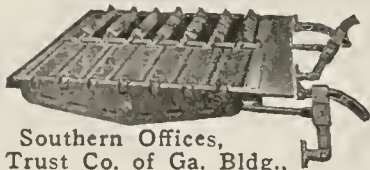
Never mind the quality; put it up to

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to take care of it. Thereby they will also take care of your pocketbook.

Smooth, even surface that will not warp.
No complicated parts. Easily installed in any furnace by any mechanic. Send for descriptive literature.

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PETTIGREW FOUNDRY COMPANY
HARVEY, ILLINOIS

IN *the* WAKE of *the* NEWS

Being Brief Mention of a Host
of Interesting Happenings in the
Varied Fields of Clayworking

Elected Director of C. of C.

Among the directors chosen recently at a meeting of the San Francisco (Cal.) Chamber of Commerce was Atholl McBean, secretary of Gladding, McBean & Co.

J. R. Marker Called to Lima

J. R. Marker, commissioner and chief engineer of the Ohio Paving Brick Manufacturers' Association, went to Lima, Ohio, recently to straighten out a tangle over some street paving which is pending in that city.

Good Demand for Face Brick in Columbus

John Cooper, manager of the Columbus office of the Moulding Brick Co., was called to Circleville, Ohio, on business. Mr. Cooper reports a good demand for face brick, with shipping facilities very much restricted.

Accepts Position With Eastern Concern

R. E. Griffith, formerly connected with the Chicago and Pittsburgh offices of the American Refractories Co., has accepted the position of sales manager for the Lavino Refractories Co., of Philadelphia, Pa. This concern is a subsidiary organization of the E. J. Lavino & Co., Philadelphia.

Visits Colorado Fire Brick Men

Frederic W. Donahoe, secretary of The Refractories Manufacturers' Association, recently returned from a trip to Denver, where meetings of the manufacturers of refractories in the state of Colorado were held. Practically all of the fire brick concerns in Colorado are members of The Refractories Manufacturers' Association.

Memphis Man Receives Honors

A. J. Cook, of A. J. Cook & Co., Decatur Street, Memphis, Tenn., was honored by election a few days ago as director of the Memphis Retail Credit Men's Association. Mr. Cook for many years has been identified with the terra cotta, sewer pipe, fire brick and fire-proofing business in Memphis and this body that captured the membership trophy in St. Paul, Minn., last year were fortunate in their selection of a member from this trade on their directorate.

Going Into Business for Himself

Many of our readers will be interested in learning of the contents of a recent letter received from F. J. Dando, of Irondale, Ohio, which reads: "You may be interested to know that I have been a subscriber to *Brick and Clay Record* for the past sixteen years. Also that I have severed my connections with the McLain Fire Brick Co., with whom I have been employed as superintendent for the past twenty years. My intentions are to go into the clay and brick business on my own account."

Death of Walter S. Kramer at Winchester

Walter S. Kramer, aged 54 years, a commission merchant identified with the china clay importing and trading business in this country and England, died at his late residence in Winchester, Mass., on May 12, of heart disease. Mr. Kramer during the past 34 years has made 96 trips to England in connection with the china clay business with which he was identified during the greater part of his life. He was president and manager of the John Richardson Co., Boston, since its incorporation in 1903.

Miss Snyder Recovering

Secretary Morris W. Montgomery of the Face Brick Dealers' Association of America advises that his efficient headquarter's secretary and assistant, Miss Emma Jane Snyder, who has been thru a severe siege of appendicitis and complication is now on the road to recovery and rapidly convalescing. Miss Snyder is one of the most experienced and best informed woman in the entire field of face brick organization activities. For several years she was an assistant to R. D. T. Hollowell of the American Face Brick Association.

Frieda Ecklund

Brick and Clay Record regrets to announce the death, after a brief illness, of Miss Frieda Ecklund, one of the most trusted and efficient members of the office staff at the headquarters of the American Face Brick Association, Westminster Bldg., Chicago. Miss Ecklund held the position of chief clerk and cashier and was in addition an expert stenographer and secretary. That her cheery disposition and optimism never wavered thru the most trying periods of this progressive organization is the testimony of Secretary Hollowell.



The Prescott (Ariz.) Brick Co. now has a force of twelve men at work making ready to burn about 200,000 brick.

New Incorporation at Los Angeles

The Southwestern Brick Co. is a new company just incorporated in Los Angeles, Cal., with a capital of \$25,000. The directors of the company are: J. C. Suits, W. M. Brunstetter and M. L. Mulford.

To Establish International Buying Center

A proposition is on foot to make San Francisco the international buying center for the population living around the Pacific and Indian Oceans. The plan is to erect a building costing approximately \$3,000,000 on Market Street, where manufacturers of the United States and particularly of the coast may show their products. Details of the proposition are before the supervisors and they include inducing every manufacturer on the coast to get behind the plan.

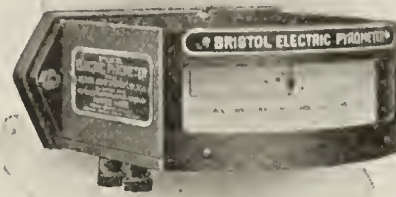
Construction Work Underway

Plans have been completed and bids will soon be called for, for a number of hollow tile and stucco high school buildings to be erected for the Dinuba High School district in Tulare County, Cal. Construction is estimated at \$120,000.

One of the important brick buildings about to be erected in San Francisco is an addition to the Women's Club Building on the north side of Sutter street, west of Mason. Contracts for this work have just been awarded to the Lingren Co., of that city. The building will adjoin the present club building and will be seven stories high of Class "A" construction. The contract was awarded on a percentage basis. It is estimated that the new building will cost \$250,000.

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BRISTOL'S
REG. U. S. PAT. OFFICE

Automatic Internal Cold End Compensator



Is an
Exclusive Feature

with Bristol's Pyrometers and cannot be furnished with any other make without patent infringement.

This Compensator corrects for any cold end error and makes the reading absolutely accurate.

Ask for Bulletin AE300

THE BRISTOL COMPANY WATERBURY CONN.



Stanley Solid Woven Cotton Belting

Transmission - Elevating - Conveying

Ideally adapted to brick and clay plant requirements. Clings to pulleys. Absorbs no moisture from damp materials. Immune to dust, grit, oil, heat and acid. Has no plies, laps or stitches. Order a trial length now.

Stanley Belting Corporation

34 So. Clinton St.
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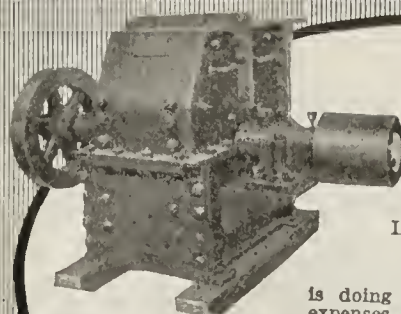


Easy, Cool Bearings

Nonpareil Anti-Friction Metal is particularly helpful on heavy bearings in brick and clay plants, on motors, cars, and on all bearings that are apt to develop friction and heat. More power. Less shrinkage and less oil. No more hot journals.

Nonpareil has been easing the load on bearings since 1885. Trial order solicited.

THEODORE HIERTZ METAL COMPANY
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Cut your power costs

If you haven't heard what the

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is doing for others in cutting down running expenses by using less power, let us send you figures on what you want to crush.
Built entirely of steel with manganese steel linings, the K-B will meet the most severe service requirements.

Write us for proof.

K-B Pulverizer Co., Inc.

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Protect Your Kilns

from heat losses and you will increase their efficiency and output.

SIL-O-CEL

Produced in the form of brick, block, powder and cements.

Insulation will keep the heat in the kilns, making it possible to obtain greater temperature uniformity and reduce spoilage due to uneven burning. Ask for Bulletin R-71.

CELITE PRODUCTS COMPANY

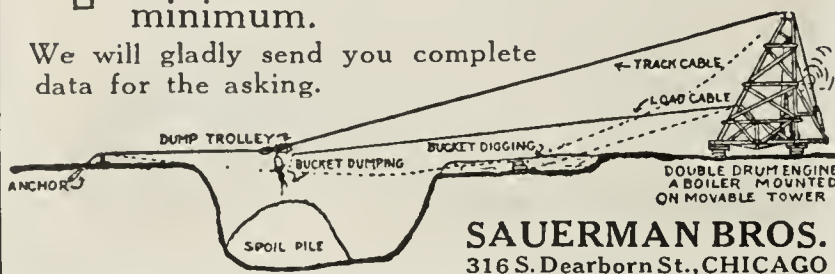
New York, 11 Broadway. Chicago, Monadnock Bldg. Los Angeles, Van Nuys Bldg.
Pittsburgh, Oliver Bldg. Philadelphia, Liberty Bldg. Cleveland, Guardian Bldg.
St. Louis, Syndicate Trust Bldg. Detroit, Book Bldg. San Francisco, Monadnock Bldg.

SAUERMAN Dragline—Cableway—Excavator

Digs, Conveys and Dumps in one operation.

Cuts labor and digging costs to a minimum.

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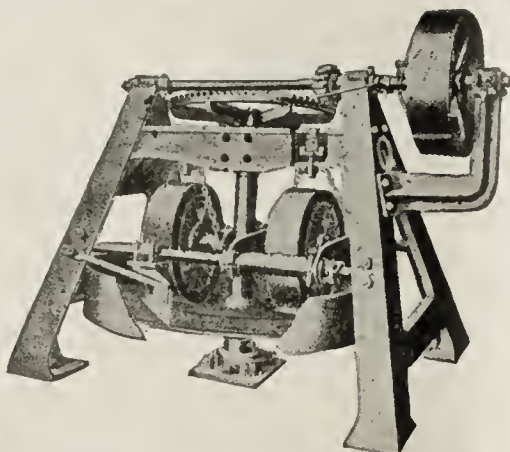
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BANDS, DOORS, GRATES *and* FITTINGS

FOR BRICK KILNS

TRI-STATE ENGINEERING COMPANY
Zanesville, Ohio

THE EAGLE DRY PAN



Write for Prices

EAGLE IRON WORKS DES MOINES IOWA

Studying Labor Conditions While Making Plant Improvements

W. W. Dennis, manager of the McNear Brick Co., is spending most of his time at the plant at McNear's Point, Cal., where the company is rehabilitating one of its kilns which has been out of commission since the war industries board slowed down the production of the plant. It will take a month or six weeks to put this kiln into commission again and will give the company three kilns for the future. As this plant uses coal screenings for fuel it will not be affected by the action of the Standard Oil Co. in cutting down the supply of fuel oil. The plant is located on the bay front and ships its output by boat, so that the bay cities may be reached without regard to the railroad situation. While he is spending his time at the plant Mr. Dennis is studying the labor conditions and is trying to arrive at a solution that will permit the plant to turn out brick at a profit at present prices.

Shortage of Fuel Oil Threatens

The general situation so far as it affects the brick men of San Francisco shows no improvement. The freight situation shows no change and the difficulty of getting workmen is as much of a menace as ever. The banks are contracting their credit and some manufacturers indicate a belief that the time is close at hand when there will be a number of idle men. From the standpoint of the brick man this is encouraging, but the hopes of the plants which are overrun with orders is greatly dampened by a circular letter sent out by the Standard Oil Co., in which it was stated that owing to the oil shortage there will have to be a cutting down on the consumption of fuel oil. By next fall, the circular states there may be a cutting off of 30 per cent. of present deliveries, and in some industries this reduction will probably be considerably more. As the brick manufacturers have not reached their natural output since the restrictions of the war have been removed this threat to cut them down 30 per cent. or more on fuel oil brings them face to face with a very serious situation. Those which have been operating with coal will not be affected by this order, but it is acknowledged that the coal situation does not look any too good to the trade.

During the past month the Ione Fire Brick Co. was forced to close down for several days on account of the non-arrival of fuel oil at its plant, and this notwithstanding the fact that the company is swamped with orders.

Will Rebuild LaJunta Plant

Work of reconstructing and remodeling the plant of the La Junta (Col.) Brick & Tile Co. has commenced, Edward G. Mayhew, a construction engineer from Denver, having been called to La Junta to supervise the work. The plant will be overhauled thruout and some new equipment added, for the purpose of increasing its capacity as well as efficiency.

New Corporation Ready to Make Deliveries

General Clay Products Corporation has acquired the property formerly owned by the A. Ittner Brick Co. These two plants, located at Belleville, Ill., with connections to all railroads running into East St. Louis, are well laid out for the efficient manufacture of brick, have all down-draft kilns and after the repairs and improvements now under way are completed will have a capacity of twenty million brick per year. The plants are now in operation, with an experienced corps of operatives in charge. The company is ready to make deliveries in any quantity, and promise the same quality of products, service, and fair dealing that characterized the Ittner Brick Co. in past years.

New Incorporation at Columbia City

The Columbus Brick & Tile Co., Columbia City, Ind., has been incorporated with a capital of \$10,000, to manufacture drain tile and brick. The directors of the new concern are: Job C. Burnworth, Bayard M. Pressler and L. A. Luckenbill.

New Plant to Use Products of Pit

Charles C. Huestis, of the Carbon Mining Co., has started work on a new clay plant at Carbon, Ind., in connection with his stripping pit west of Carbon. The plant will make a specialty of face brick and will also manufacture fireproofing building materials.

National Developing Its Clay Deposits

The National Fire Proofing Co., Brazil, Ind., has begun to develop large shale and clay deposits on its farm just west of the water works on Otter Creek and operations will soon be extended on a large scale. The company has a 77 acre tract of land lying just west of its plant on which is a fine vein of clay and shale. Tramways have been run to the new pits and a number of men are being employed opening up the work.

Remodeling Plant to Produce Fireproofing Materials in Brazil

The Lyons Fireproofing Co., which recently purchased the Indiana Paving Brick & Block plant on South Hoosier Street, Brazil, Ind., has about completed the work of remodeling its factory for the manufacture of fireproofing materials. The company has 27 kilns and will be able to turn out an enormous production as the fireproofing ware requires only seven days burning whereas paving brick required three weeks. The plant is starting operations with eighty men but later the force is to be increased. F. W. Peters is superintendent and William Hansley, assistant.

An automatic dump and conveyor for fuel has been installed at the Lyons plant so that the coal is brought in on a switch and dumped into the conveyor and connects to the coal bins without the aid of human labor. A similar arrangement is provided for the unloading of the clay and shale.

This company owns and operates eleven plants in Ohio, Indiana, Illinois and Minnesota. It now has an option on the McCullough farm near Saline City, where it is expected to open a large clay, shale and coal stripping pit.

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Suer Brothers resumed operations at their plant at Lawrence, Ind., on May 10. The plant now has a capacity of 27,000 brick a day.

Building New 15-Kiln Plant

W. B. Martin & Sons, of Le Claire, Iowa, have started the erection of a fifteen-kiln plant there. The new plant will be located along the railroad tracks and the old plant razed. The shale deposits of the plant are extensive and of high grade.

Build New Dryers and Sheds

The Standard Clay Products Co., of Oskaloosa, Iowa, has work well under way on the complete remodeling of the plant formerly occupied by the Vitriified Brick Co. New clay sheds and new dryers have been constructed.

Iowans Discuss Clay Depletion

Members of the Permanent Buildings Society held their regular meeting in Des Moines, Ia., May 18. Practically the en-



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Our greatest asset is the reputation of our product, and it is our policy and our purpose to maintain at all times the high and dependable quality that has built up our business.

Established 1857

A. LESCHEN & SONS ROPE COMPANY

Makers of HERCULES (Red Strand) WIRE ROPE

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CRESCENT BELT FASTENERS

"Make Good Belts Give Better Service"

Write to our Brick Mill Service Dept. for full information how Crescents will help you.

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Correct Construction



In all Caldwell Cypress Tanks. They will give you honest, dependable, life-long service. Every Caldwell Tank is machine-planed and jointed; the hoops, properly sized and spaced, have a positive grip. Approved engineering principles only are employed throughout its construction.

True and tight—they are free from breaks, bulges or leaks.

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TANKS
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Barber-Greene-Co
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Makers of
the original B-G
Standardized Belt
Conveyors. B-G Self-
Feeding Bucket Loader.

Lift the lever to open the valve

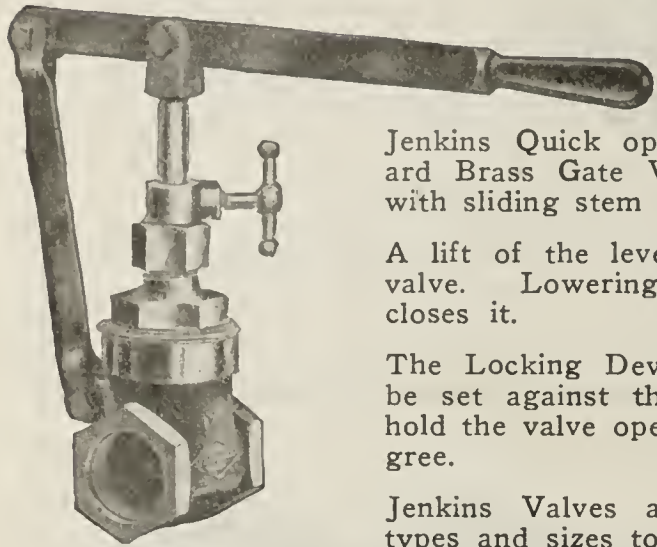


Fig. 376



Jenkins Quick opening Standard Brass Gate Valve. Fitted with sliding stem and lever.

A lift of the lever opens the valve. Lowering the lever closes it.

The Locking Device Key can be set against the spindle to hold the valve open to any degree.

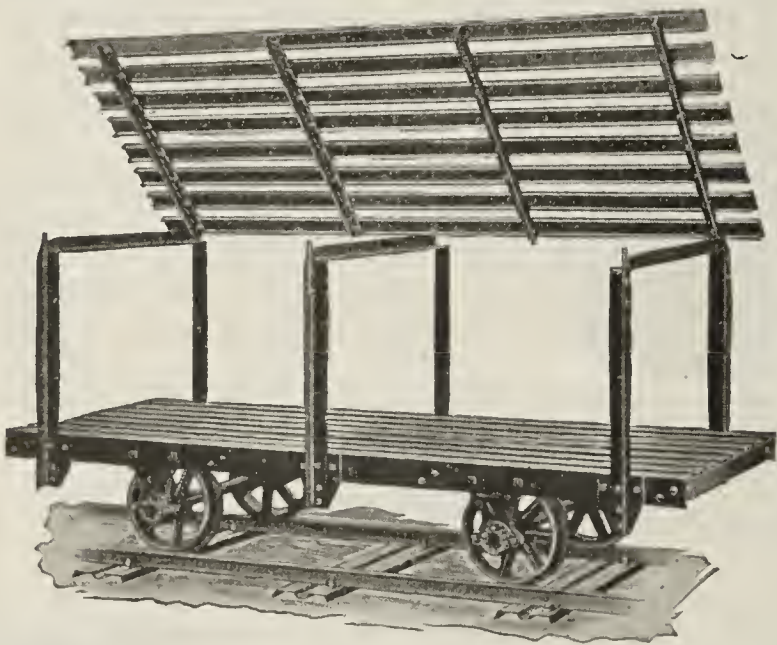
Jenkins Valves are made in types and sizes to meet all requirements—the genuine are known by the name and Jenkins "Diamond Mark." Your supply man can serve you.

JENKINS BROS.

New York Chicago Philadelphia Washington
Boston St. Louis San Francisco Pittsburgh
Montreal London Havana

Jenkins Valves

2154-J



Lakewood Double Deck Car No. 167

The Robinson—LAKEWOOD LINE—
Dryer Cars; correctly designed, correctly
built, correctly sold.

Frank H. Robinson

Factory and General Office - - Pittsburgh, Pa.

tire day's meeting was given over to a discussion of clay depletion. Clayton B. Stivers, an income tax expert, spoke at length on the subject to the clay products manufacturers.

Bellevue to Become Clay Center?

Bellevue, Iowa, has visions of becoming a clay producing center. The Bellevue Pottery has been in operation there three years and has met with considerable success and now a number of other plants are under way, on paper at least. One of the proposed plants is being backed by a group of Dubuque capitalists.

Rebuilt Plant Now in Operation

The DeSoto (Ia.) Brick & Tile Works, which was recently rebuilt after being completely destroyed by fire, is now in operation. The owners, Herdlika & McCorkle, propose to confine their output largely to building and silo tile. Drying at the new plant is being done by a direct-fired radiated heat dryer.

One New Kiln Now Completed

The J. F. Turner Silo Co. has completed the first of its new kilns at Maxwell, Iowa. Work on the new kilns has been greatly delayed by inability to secure labor, but the three old kilns have been working at capacity. The new kilns will give an added capacity of 30,000 tile a month.

Propose Clay Plant for Hampton

L. S. Sullivan and C. F. Sullivan have plans under way for a clay plant at Hampton, Iowa. Borings and clay tests have been made with experts from the plants at Sheffield, in charge of the work, and the results thus far have been such as to lead the backers to believe that the clay is of fine quality and the deposits extensive.

Will Specialize on Silo Tile at Nevada

The Keeler interests which have long been identified with the clay products business at Mason City, Iowa, have recently purchased considerable acreage at Nevada, Iowa, and will soon start the erection of a plant there. The Keelers have been considering the Nevada location for a number of years and propose to specialize on silo tile at the new plant. In addition to land for the plant the company has purchased adjoining property on which to locate homes for the workmen.

Many Improvements Increase Production

Improvements at the McKissick plant at Carlisle, Ia., are proceeding satisfactorily. Machinery for the dryer has been placed and it will be in service shortly. The clay supply for this plant is situated a mile and a half from the kilns and has been hauled by a twelve-ton steam locomotive. On complaint of the citizens of Carlisle against the tracks running thru the town, and the noise involved, the company is installing gasoline motors to haul the clay. At the clay bank a drag-line is being installed for loading clay.

Car Movement Somewhat Improved in Iowa

Conditions among the Iowa clay products manufacturers are showing a gradual improvement. The labor situation is better than it has been in months with the exception of in the Fort Dodge territory, and manufacturers are beginning to feel the results of improved car facilities. Car movements are gradually getting back to normal and shipments during the past thirty days have been largely increased. However, as proof of the fact that the car situation is still far from ideal, one Sheffield, Ia., plant has a million tile on hand and at the same time orders for two million.

Little Improvement In Car Situation

Car shortage hasn't shown any great improvement as yet, but movement of empties from the East and North to the West and South is beginning to improve the situation slightly. Most of the companies located around Louisville, Ky., are managing to get enough cars to make a fair showing.

Hollow Tile Making Fine Record

Hollow tile is getting a better play in residence construction this year than in any previous year in the history of Louisville, Ky. A number of fine residences of the larger type are being constructed of tile, altho the architects frequently fail to carry out fireproof construction, and stick to wooden gables, roofs, etc., where tile and other material could be used.

Coal Prices Steepest Ever Paid in State

The coal situation is steadily growing worse, but improvement is in prospect with improved car supply. Eastern Kentucky mine run gas coal is now selling at prices ranging from \$6 to \$7.50 a ton, and no mine run from East Kentucky can be had at much less than \$6. Western Kentucky mine run is reported selling at \$4 to \$4.50 a ton, having advanced sharply. Fuel is scarce and very high, prices at mines, as indicated above, being the steepest ever paid in the state.

New Bannon Plant Almost Completed

The roof will be completed on the new plant of the P. Bannon Pipe Co., at Louisville, Ky., during the next few days, and the company has most of the machinery on the ground and ready to install. It expects to be running in the new plant within two weeks or so. A. P. MacDonald, salesmanager of the company, stated that there was an excellent demand for all lines, and that the company was running at full capacity, but needed the new plant badly.

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The Quinwin Brick & Tile Co., Quinwin, Ky., has been incorporated with a capital of \$60,000 by W. W. Wynne, C. T. Wallance, and B. W. Dyer.

Louisville Firms Crowded With Orders

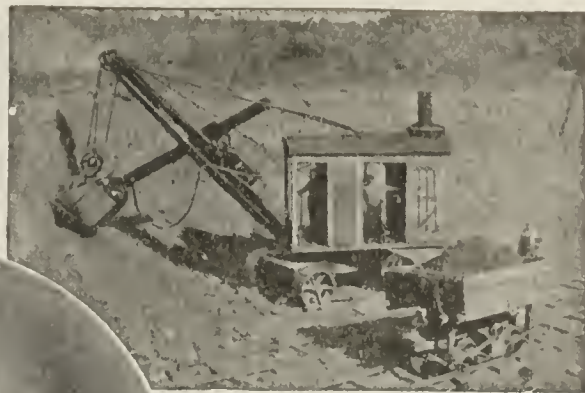
The general situation in Louisville, Ky., shows very little change, there being a strong demand for brick and hollow building tile, sewer pipe and other clay products. Fire brick and pottery are two other lines that are in excellent demand. At the present time local manufacturers and jobbers are crowded with business, and unable to take much new business for delivery in less than several weeks.

It has been claimed that Louisville could support another brick plant, but the claims are faulty, as even more brick plants would not relieve demand at the height of the building season. Present indications are that the local plants will have a good and active year, and that good grades of outside face brick will be in steady demand from jobbers. However, it is very doubtful whether Louisville could support another brick plant, as in the old days there were practically none of the plants making money, and at a time when there was not as large a production as there is today.

Establishment of the new Falls City Hydraulic Brick Co., between New Albany and Jeffersonville, Ind., will relieve demand for brick from the North side of the river materially, as those two towns will be able to escape bridge or ferry tolls in hauls made direct from the new plant.

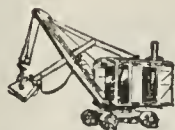
A clay products man recently remarked that there was too

ERIE Shovel
owned by
Jackson-
Bangor Slate
Co., Pen Ar-
gyl, Pa.



"Very Economical"

"During the past year we have moved approximately 50,000 cu. yds. of slate shale with our ERIE Shovel. It is a wonderful machine, ideal for our work, as it is easily moved. We find it very economical and inexpensive. We are very much pleased with our investment." N.M. Male, Sec'y, JACKSON-BANGOR SLATE CO. Pen Argyl, Pa.



Serves as
Steam-Shovel
or Crane
(Clamshell)

The ERIE Shovel is easy to operate. Very speedy. Built with extra strength all the way through. Gives steady service in hard shale.

Let us send you full details about the ERIE Shovel, and what it will do. Write for Bulletin B.

BALL ENGINE CO., Erie, Pa.

Builders of ERIE Steam Shovels and Locomotive Cranes

ERIE Revolving Shovels

BALL
Engine Co.
Erie, Pa.

"We have been using at our two factories for the past year, Barium Carbonate made by the Rollin Chemical Company. This material is used to prevent scum and has proved entirely satisfactory."

THE UNITED STATES ROOFING TILE CO.

5-15-18

IMPROVE YOUR WARE

It can be done by the use of Rollin's Barium Carbonate because it eliminates scum.

Just add it to your clay at the pug mill or dry pan and it will make the scum-producing salts insoluble and harmless to your ware.

Write us now.

Rollin Chemical Corp.

Equitable Building

120 Broadway, New York City

BRICK MUST HOLD UP ITS REPUTATION

The MINTER SYSTEM of Continuous Burning Down Draft Kilns

Speeding up Production of Face Brick these days is necessary in order to supply the demand.

Coal is very scarce—Hard to get. All indications point to a general shortage for some time. The coal you can get must be utilized to the best advantage.

Would it pay you if you could burn more brick—a few million per year—with the coal you can get?

It can be accomplished by the continuous system of burning on your down draft kilns. Foremost is the MINTER SYSTEM—Because WE HAVE COMPLETE CONTROL, guaranteeing No. 1 ware production.

Let us show you how.

The Flint River Brick Company
ALBANY, GEORGIA

much opportunity for fireproof substitutes when clay products are sold up. However, other lines of material are almost as scarce as fireproof materials, and the situation is fairly well balanced.

Brickyards Drawing Young Men

The high wages being paid by brickyards are attracting many young men who have never done this class of work before. This is particularly true in Western Massachusetts where a number of young men have given up work in mills and shops and are employed in the yards for the summer season.

Labor Scarcity Bothers These Yards

Operation of the several brick yards in the vicinity of Holyoke, Mass., the opening of which had been delayed by inclement weather, was begun during the past fortnight. Phillips brickyard in the village of Willimansett was one of the first to be opened for the season. The Lynch Brothers, Landers and other yards resumed a short time later. The labor situation is bothering the manufacturers and the amount of brick that will be turned out this year is more or less problematical. Yards in the vicinity of Holyoke have a capacity of close to 20,000,000 brick, but most of the owners are said to feel that if they can turn out 15,000,000 to 18,000,000 this year they will have done well. Brick is shipped from the Holyoke district thruout New England and most of the yards have orders well ahead. The present price ranges from \$25 to \$30.

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The Bowerston (Ohio) Clay Co. has been incorporated with a capital stock of \$150,000.

Salesmanager Inspects Groveport Plant

Salesmanager W. K. Matthews, of the Claycroft Brick Co., of Columbus, Ohio, inspected the plant at Groveport recently. The company is operating both of its plants on full capacity. Shipping is restricted to a large degree because of the car shortage and railroad congestion.

Newly Incorporated at Dennison

The Dennison (Ohio) Brick & Tile Co. has been chartered with a capital of \$110,000 to manufacture brick, tile and other clay products. The incorporators are: A. V. Sturgeon, S. B. Haas, J. A. O'Donnell, G. V. Bensen and G. S. McCaw.

Brick Club Discusses Car Shortage

A meeting of the Columbus Brick Club was held at the Chittenden Hotel, May 24, with a large number present. Discussion centered around the car shortage and embargoes which are in force in many roads. It was reported that brick can now be shipped into Michigan with the exception of the city of Detroit.

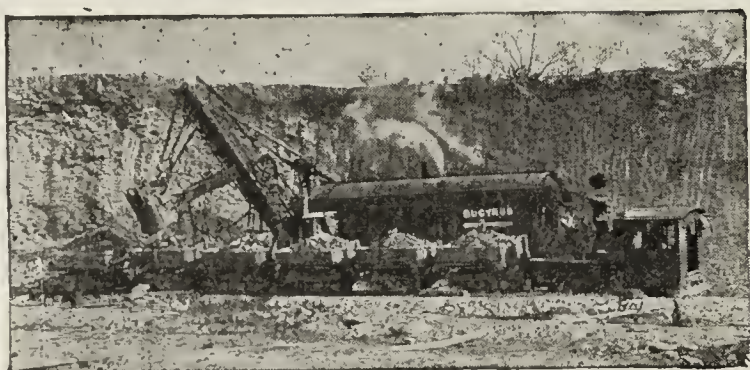
Portsmouth Home Building Co. Formed

A home building company has been formed in Portsmouth, Ohio, with a capital of \$300,000, which proposes to erect 100 or more homes for the housing of the people of that city. The company is called the Portsmouth Home Building Co. Incorporators are: W. Habelbeck, Simon Labold, E. N. Mack, A. E. Singleton, J. T. Breece, N. M. Murray, R. A. Selby and H. W. Heer.

Operating with Full Force

Salesmanager John Baker, of the brick department of the Hocking Valley Products Co., Columbus, Ohio, inspected the face brick plant at Greendale recently. The company

BUCYRUS



For Digging Shale

The massive construction and great power which are found combined in

Bucyrus Steam Shovels

have made them famous the world over for long life, economic operation, high steady output and power.

Let our representatives tell you what they can do for you.

110-C—3½ to 6 cubic yd.	78-C—2½ to 3½ cubic yd.
103-C—3½ to 5 cubic yd.	68-C—2½ cubic yd.
88-C—3 to 4 cubic yd.	

Also, all sizes revolving shovels and dragline excavators.

Send for Bulletin AB

BUCYRUS COMPANY

SOUTH MILWAUKEE, WIS.

New York, Chicago, Cleveland, Birmingham, Minneapolis, Denver, Portland, Ore., San Francisco, Salt Lake City, London 187

is operating the plant with a full force and coal is available on the ground. Orders are coming in fairly well, altho shipping is being held up because of railroad congestion.

Good Prospects for Ohio Pavers

Quite a few paving jobs are coming up in Ohio at this time. A letting was held at Lima recently and another at Mt. Gilead. Jobs are being advertised at Findlay, Tiffin and other points, especially in the northern and north-western part of the state. If it were possible to ship pavers and embargoes would cease to hinder movement, paving brick manufacturers say that there would be a fair demand.

Urges Priority for Paving Brick

Ohio Highway Commissioner A. R. Taylor has sent a telegram to the Interstate Commerce Commission urging that the commission place road building materials, which include paving brick, on the priority list for freight shipments. The message points out that construction of important links in the network of Ohio highways is being held up by failure of materials to arrive. He also says that maintenance of present roads will suffer unless steps are taken to secure materials.

Still a Marked Scarcity of Commons

Demand for common brick continues active in Central Ohio territory. In fact, there is still a marked scarcity of common brick and prices are high as a result. Quotations range from \$23 to \$28 per thousand for common brick, delivered on the job. The plants in Central Ohio have been held up by the rainy weather and their output has not been up to normal. A large quantity of common brick is being shipped into Central Ohio to supply the deficiency. Indications point to an active demand for common brick for the remainder of the summer.

Improvements Progressing Rapidly

The Franklin Brick & Tile Co., of Columbus, Ohio, which operates a large common brick plant at Taylor Station, is progressing very nicely in its program of improvements and extensions. Five of the eight new kilns for the old plant have been completed and the remainder will soon be ready for use. In addition, a stack 125 feet high and 7 feet in diameter at the top has been erected. Three 150-horsepower boilers have also been set and will soon be ready to operate. The building of homes for its employees is also going forward. Work on the new plant, designed to manufacture hollow tile, has been delayed because of failure to get materials. It is expected to have this new plant ready for operation by October at the latest.

School Construction Still Active in Ohio

Building operations in Columbus and Central Ohio are falling off some from the high records which prevailed during March and April. This condition was anticipated because of the bad shipping facilities which have discouraged many new projects. On the other hand, money is so tight that some of the building projects could not be financed and they have been postponed indefinitely. But there is a lot of construction work on hand and others is being started. Home building is not quite as active as formerly, owing to lack of borrowing power. In factory construction there is still activity and quite a few additions are being projected. School construction is one of the active features at this time and quite a few school contracts have been awarded during the past month.

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Of Every Description

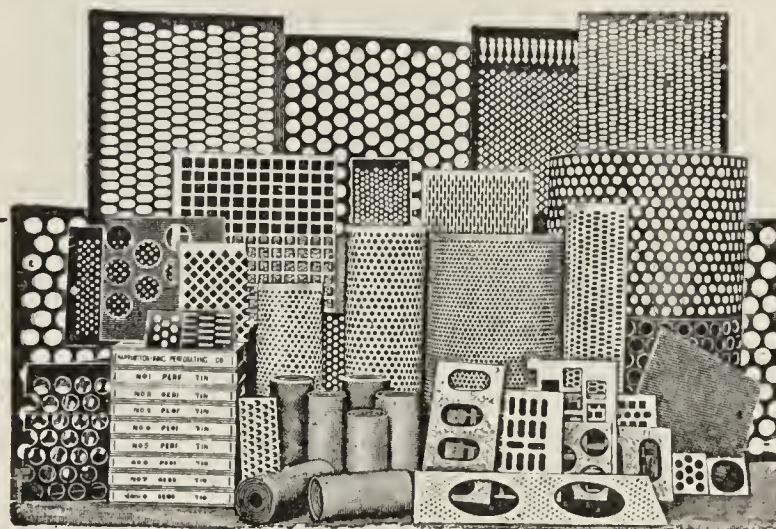
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Gravel, Stone and Cement

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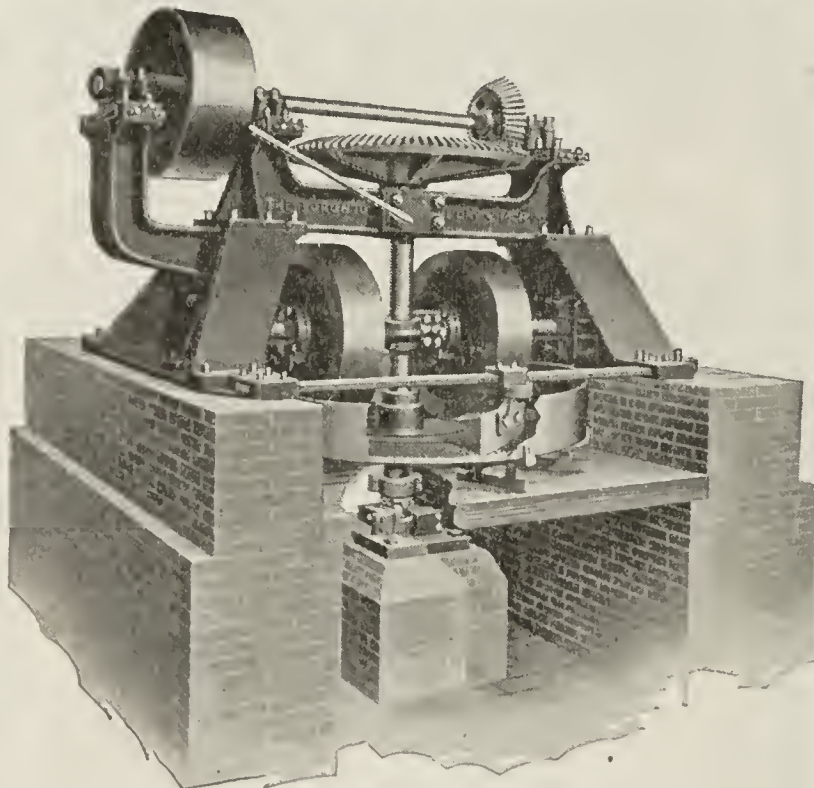


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Type "B" Dry Pan, 9 ft or 10 ft. sizes

The rugged construction of our Pans insures long and efficient service with the least expense for upkeep. A large list of satisfied customers is evidence that our Pans are

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Toronto, Ohio

Face Brick Prices Remain Steady

Face brick manufacturers in the Ohio field are operating their plants to full capacity where fuel is available. In some instances, owing to lack of coal, plants have been closed down temporarily, but in the Hocking Valley field, where coal is often found on the same ground as the clay, the factories are being operated on full time. The demand for face brick is still good, altho orders have fallen off to a certain extent, principally because of the slow shipping facilities. Most of the face brick plants have orders booked that will require six months to be shipped at present car supply, but the manufacturers are still optimistic of the future and are bending their efforts to getting stocks manufactured as they believe the demand will develop as soon as freight facilities are improved.

Face brick are steady at the levels which prevailed for some time. Prices in Columbus, delivered on the job, run from \$32 to \$40 and in some instances even higher.

Cleveland Production Above Normal for Present Demand

Brick and tile interests in Cleveland, Ohio, are giving more serious consideration to the immediate outlook for movement of their materials. Latest development shows that unless there is speedy delivery of cement, lime and plaster, basic materials now almost conspicuous by their absence from this market, a marked shut-down in demand for brick and tile will result, as building cannot go ahead.

In the hope that production and movement of these key materials will improve, manufacturers in the Cleveland district are going ahead with production. This has been brought to above normal for the present demand. Deliveries are being made thruout Northern Ohio almost exclusively by motor truck. There appears to be a better supply of coal moving in, for consumption at brick and tile plants in the district.

Meanwhile some relief from the car stringency is seen in the offer of A. S. Ingalls, general manager for this district of the New York Central Lines, who has agreed to place fifteen cars at the disposal of the mayor's housing committee, these cars to be used only for the handling of plaster and cement from the Sandusky district to Cleveland.

Principal activity of the mayor's housing committee to date has been to create a bureau, whence certificates for bona fide house builders will be issued. Possession of these certificates will mean that home builders may obtain preference in delivery of materials from supply dealers; loans from financial institutions; labor thru the Building Trades Council.

Okmulgee Brick Co. Granted Charter

The Okmulgee (Okla.) Brick Co. has been incorporated by W. B. Pine, John H. Rebold and E. R. Tibbetsk, all of Okmulgee, with a capital of \$600,000.

Pittsburgh Clay Products Market

A more deplorable situation in the clay products industry could hardly be imagined than that existing in Western Pennsylvania, Eastern Ohio and Northern West Virginia. And it is all due to the transportation congestion incident to the railroad strike.

Millions of dollars worth of construction work is being held up because brick and tile manufacturers are unable to get sufficient cars to deliver the materials that have been contracted for. Blast furnaces in the steel belt are suspending

operations, being unable to get fire brick for relining; work on practically all brick structures, whose building materials are moved by the railroads, has ceased completely, and now reports indicate that additional brick and tile plants within a radius of 500 miles are closing down, with the intention of remaining idle until the railroad situation improves.

Just when this improvement will be brought about sufficiently to help the clay products industry out of its predicament is a question that is causing renewed and added apprehension, for another source of worry developed within the past fortnight, in the action of the 28 leading railroads of the country recommending to the Interstate Commerce Commission that the roads be given authority to restrict transportation to foodstuffs, coal and newsprint paper. This will completely stop shipments of not only clay products, including all structural materials and pottery, but also the materials that go into the making of these commodities themselves.

One leading Pittsburgh brick maker managed to start three carloads of fire brick from his plant near Beaver Falls, Pa., and after a search extending over a week found them on a siding many miles in the opposite direction to the point of consignment. This is a little illustration of what the trade is up against. If the railroads exercise the power to be vested in them by the Government, there is no telling when the situation will be sufficiently cleared up to justify, in the minds of the railroads, the lifting of the stringent embargoes now contemplated.

All this comes at the most contrary time conceivable, at a time when the trade is experiencing the best demand for all grades of products that it has ever enjoyed, a demand such as comes once in a life-time, as one veteran manufacturer put it.

Clay products consumers are willing to pay unheard of prices, and even for deliveries extending over a year from time contract is made. Many users have agreed that shipments be started six and seven months after contract is made. This is nothing more or less than a reflection of the great desire for the material needed in construction work. Common brick is demanded on all sides, but the supply is unusually inadequate. City plants are quoting \$20 for common brick, while the outside makers ask \$18 to \$20, f. o. b. car. School house, industrial office and other high class construction work is responsible for the big demand for face brick, which is bringing from \$30 to \$45, with considerable activity at \$33. Backup tile is wanted at \$110 f. o. b. cars, Pittsburgh, and in many instances buyers are willing to wait six and seven months for its delivery. Consumers are manifesting the same disposition as regards fireproofing of all grades. All fireproofing manufacturers are well stocked with marketable material.

In fact the only stocks that are moving now are those being transported by wagon and motor truck. Several of the leading steel plants are sending their trucks many miles to get the necessary brick and tile for repair work, but not all of them are able to do this.

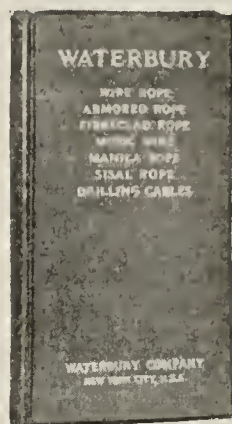
Buys Brickyard in Order to Get Brick

Unable to contract for brick with any assurance of delivery, it is reported that J. W. Butler, of McKeesport, Pa., bought the Peckman brick yard at Groenock, and kept the force of men at work so that he could have the building material hauled by truck to McKeesport, where he is having a \$50,000 garage erected. Mr. Butler paid \$10,000 for the brickyard, it is stated, and says he may keep it after his garage is built.

Barrington Plant Resumes Operations

Operations have been resumed for the season at the plant of the Barrington (R. I.) Steam Brick Co. The yard was

WATERBURY MUSIC WIRE



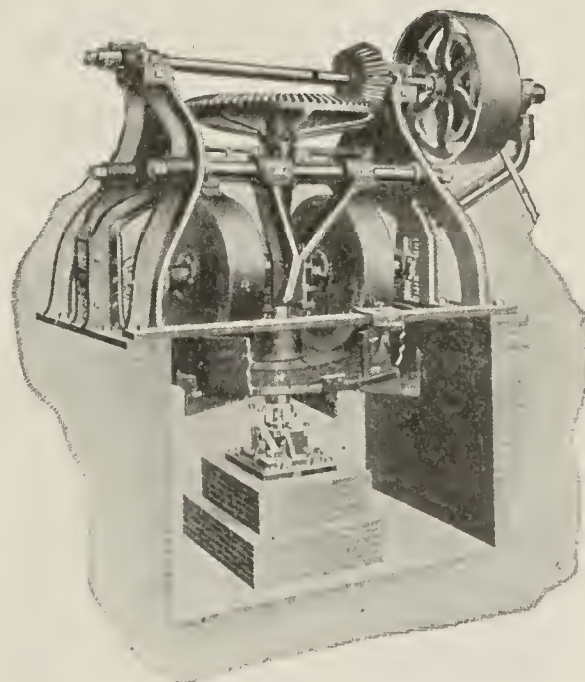
Quality is the only economical basis on which to select music wire. Accurate drawing, uniformity of stock and correct tempering are Waterbury qualities which have made Waterbury Wire the peer of music wire.

160,000 Rope Buyers are using the Waterbury GREEN BOOK as a guide. A copy will be sent upon request.

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STEAM PRESSES FOR MAKING


Sewer Pipe, Drain Tile, Hollow Blocks, etc.

All of the highest class designing and construction are manufactured by

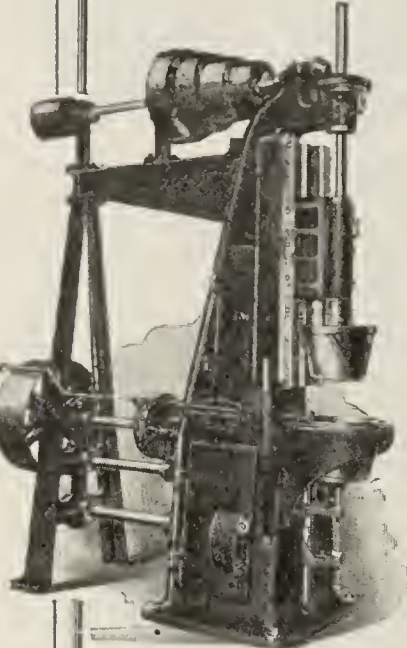
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manufacturing Flower Pots, Sleeves, Nozzles, Insulators, etc.,—if you have the right kind and dependable moulding machine.

The reason for the success of these machines is because they have speed, turn out ware that is better in quality and uniform in the moulding, and they require only unskilled laborers to operate them.

On these points are based your profits in the specialty business.

Send us a sample of your clay with your inquiry.

BAIRD MACHINE & MFG. CO.
265-69 Jefferson Ave., E. Detroit, Mich.

thoroly renovated last year and is in condition to produce the maximum output if sufficient help can be obtained.

Incorporate to Make Fire Brick

The Pendleton (S. Car.) Brick Co. was incorporated with a capital stock of \$30,000 to manufacture fire brick. The officers of the new incorporation are: John A. Hudgens, president and treasurer; J. R. Harmon, vice-president, and C. H. Williams, secretary.

Union City Also Has Brick Plant

The McAdoo-Waddell Brick Co. has been organized for the purpose of manufacturing brick, at Union City, Tenn., and will commence operations shortly. The following compose the new firm: R. J. McAdoo, John Waddell, W. H. McAdoo and L. H. McAdoo.

New Brick Plant Opened in Knoxville

The Riverside Clay Works, Knoxville, Tenn., started operations at its plant on May 3, with a capacity of 25,000 brick daily output. J. W. Dooley is the owner of this new plant and while the present output is confined to brick, he intends to greatly enlarge the plant and to diversify its output, it is reported. A large modern dryer is to be installed and all the machinery will be of the most modern type, for the manufacture of roofing tile and hollow building tile.

Plans Trip for Clay Research Work

State Geologist Wilbur Nelson, of Nashville, Tenn., and several of his field men and experts from the Nashville Universities will leave for East Tennessee mountainous section to make research on clay and other earth products in that department of the State work. Hitherto these researches in Henry, Carroll and the West Tennessee counties noted for fine clays have been replete with interest. They have been compiled from time to time in monthly reports by this splendid department in Tennessee, a work carried on admirably by the present geologist and originated by his late predecessor, Mr. Pardue.

Clay Modeling Featured in Tennessee Schools

An exhibition in the schools at Chattanooga, Lookout Mountain School conducted by Miss Anna M. King, was the work of the pupils in clay modeling, one display being a miniature model of Lookout Mountain in clay, trimmings with mountain moss, trees of the forest illustrated. This was the work of the geography class. Other works of art were the town hall, the famous incline up Lookout Mountain and the home of Hon. Newell Sanders, the plow manufacturer who represented Tennessee in the United States Senate for a few weeks. The clay interests in and around Chattanooga, especially on sewer pipe brick and fine porcelain goods are very notable.

Brick Scarce and High in Proportion to Demand in Tennessee

W. W. Fischer, of the Fischer Lime & Cement Co., was seen at his office on Walnut Street, Memphis, Tenn., and states that in the line of terra cotta products the factories are giving better deliveries; that sewer pipe is not very plentiful, brick scarce and high in proportion to demand. The company handles fire brick. At their plants in adjacent sections in the sand trade they have been handicapped by high water.

The Herbert-Fischer Brick Co., in which W. W. Fischer is interested, is rehabilitating the old South Memphis Brick Co.'s plant, installing a 24-tunnel dryer, erecting a continuous kiln system and will be manufacturing on a good scale soon. Common brick will be the line produced.

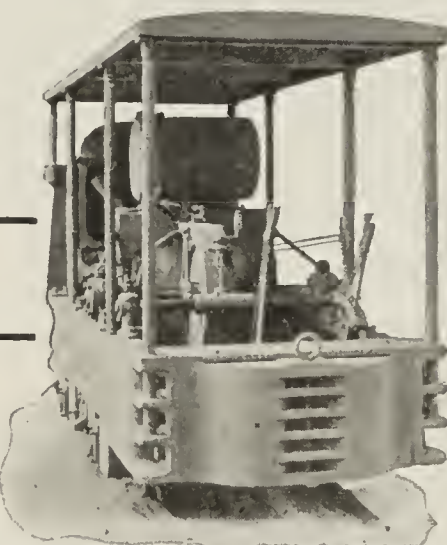
Work is now in progress on the warehouse addition on Wal-

CUTTING YOUR CLAY HANDLING COSTS

The economical handling of clay is an increasingly serious consideration at the present day and the future, owing to the shortage of unskilled labor. Up-to-the-minute hauling equipment offering economic possibilities is very much in demand.

THE BURTON GASOLINE AND KEROSENE LOCOMOTIVE

assures you of a power unit that meets all the requirements in cutting the costs and speeding up production.



Simple to operate
—sure control.

**HAUL IT
ECONOMICALLY**

*Ask for a copy of
booklet describing
the Burton
Locomotive.*

THE BURTON ENGINEERING & MACHINERY CO.
Cincinnati, Ohio, U. S. A.

nut Street of the Fischer Lime & Cement Co. at Memphis. It will with present plant cover about one block, cost about \$175,000 and be the last word in fineness and modern features. The outside will be of terra cotta tile.

Residential work at Memphis on brick, veneered buildings is on a good scale now despite, a rainy spring. It is considerably more active than last season.

The F. R. Thomas Clay Products Co., Central Bank Bldg., Memphis, Tenn., report increasing demand in clay and terra cotta products in the building trade this month, both residential, public and business structures taking large quantities. Deliveries are improving.

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New Tile Company in Athens, Texas

The Wilburn Tile Co. has been incorporated at Athens, Texas, with a capital stock of \$5,000. The incorporators are W. B. Fraser, J. H. Payne and J. J. Ryan.

Expect to Operate by August 15

The Amarillo (Tex.) Brick & Tile Co., recently organized, expects to get its plant built and ready to turn out brick by August 15. At a recent meeting of stockholders, R. B. Masterson was elected president of the company; J. N. Beasley, vice-president; J. D. Hunter, secretary; W. C. Pope, treasurer and general manager, and John R. Stubblefield, plant superintendent. The directors of the company are: R. B. Masterson, J. N. Beasley, W. C. Pope and E. J. Gladfish.

New Brick and Tile Plant

The Crockett Brick, Tile & Manufacturing Co. which was recently incorporated with a capital of \$150,000, has purchased a tract of 72 acres of land at Crockett, Tex., upon which it will build a large and modern brick and tile manufacturing plant. The company is composed of local business men of Crockett and the industry will be devoted chiefly to the manufacturing of building brick. The plant will have a daily capacity of 40,000 brick. The land which the company purchased contains a large deposit of clay that is said to be splendidly suited for the manufacture of brick and tile.

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Form Association to Boost Clay Products

In March of this year the Western Canada brick, tile and sewer pipe manufacturers met in Medicine Hat, Alta., to confer regarding the possibility of increasing the sales of brick and other clay products, and to exchange ideas, and at this meeting an association was formed, E. H. Sellhorne being elected as president, and H. J. Sissons as secretary for the year 1920. The association is known as the Western Canada Brick & Clay Products Association, the office of the secretary being at Redcliff, Alta. One of the aims of this association will be to boost Canadian clay products, as there are a great many schools as well as other public buildings being erected of frame construction and the fire loss is very heavy on the prairies.

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Alsip Company to Supply Common and Hollow Brick for New Warehouse in Winnipeg

The Alsip Brick, Tile & Lumber Co., of Winnipeg, Canada, have closed a contract with the Peter Lyall Construction Co. for the brick required for the new warehouse now in course of erection at Winnipeg, for the T. Eaton Co., amounting to 2,570,000 common brick and 640,000 hollow brick. This building is now well started and delivery of the brick will commence at the rate of over half a million per month, about June 23.

Equip Your Kilns with SCHURS No. 1 DOWN-DRAFT KILN BURNERS

For quick burns and better colors.

The Schurs is the ONLY Kiln Burner provided with a hood to protect the low fire from strong drafts when water smoking. Different types of Burners for the various classes of kilns.

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Adjustable
Tip Hood

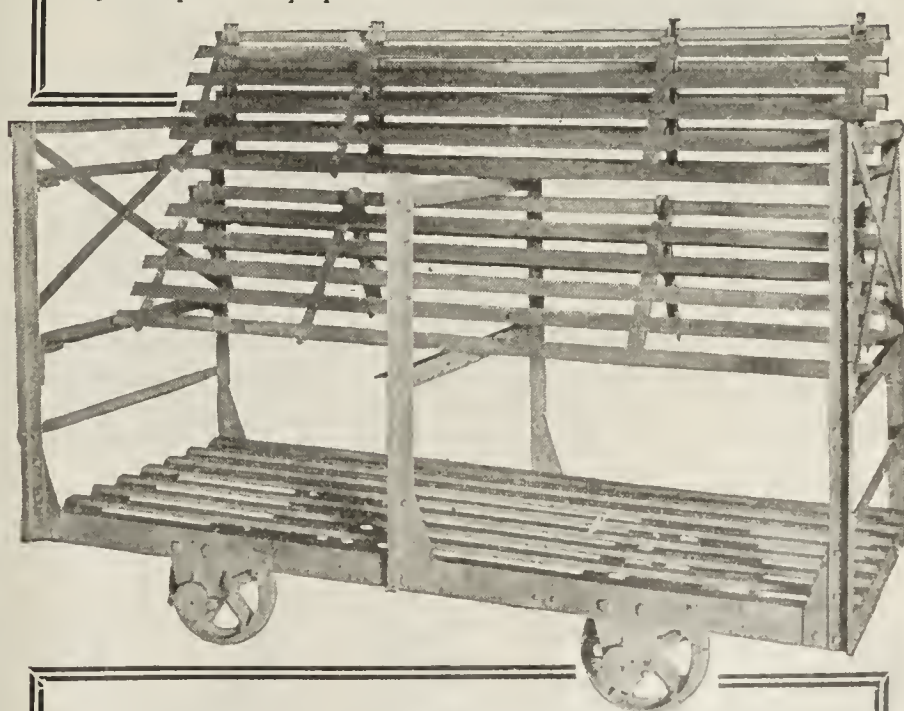
"Be Sure
it's
Schurs"

This burner will produce a light fire close to the tip hood or to the rear of the furnace as desired, with just a half turn of the tip at a time.

CONKEY DRYER CARS IN YOUR CLAY PLANT MEAN—The Right Cars

Because: they are designed for your individual requirements in handling your loads and hauls.

Every condition is carefully taken into consideration so that the finished car will fit right in with your plant equipment.



Let our Engineers advise you regarding dryer cars
Ask for complete data

H. D. CONKEY & COMPANY
MENDOTA, ILLINOIS

"The Colonel Speaks Up"



"See this brick; a beauty, isn't it? And this one and this?"

"Yes, Mr. Elcock," I said. "I must admit I never saw better brick."

"Two weeks ago today I made a cross country run in my car," he continued, "and visited a number of yards, getting a sample green brick at each place."

"Invariably, I was told of some peculiarity of the clay; that it was hard to burn; that it had to be water-smoked carefully; that it wouldn't color properly; that it flaked or chipped or something of the kind.

"Every sample you see here was burned in an Elcock kiln right here in a local yard along with its everyday run. Most of them were about ten courses from the bottom in a setting thirty-eight high and they are better, harder, more highly colored than their makers ever got even from the top of a kiln. From the time the first match was struck till the kiln was closed was a little over three days and a half.

"Do you catch what that means? These yards are wasting time, fuel, labor, equipment and material trying to burn brick the old way. Hundreds of others are doing the same thing. The total loss is tremendous and entirely unnecessary.

"For a very nominal sum, I can convert the ordinary round down draft kiln so that it will give results similar to the ones I've told you about. An out and out new kiln costs no more than the old style and soon pays for itself.

"Sounds too good, doesn't it? Well, all that I want is a chance to 'show' any man that is interested."

Just write: "What is your proposition?" to the

E L C O C K
QUICK BURNING SYSTEM
Box 121 Florence, S. C.

Testing Clay Materials in Texas

Testing materials in Texas suitable for making brick has been one of the experiments made this year by the chemical laboratory of the University of Texas. The purpose of the testing is to find especially high grade clay for the manufacturing of building, paving and fire brick. Samples were sent in by different persons interested in particular deposits and were tested first by chemical analysis and then by burning. From such experiments it is possible to get conclusions as to the commercial value of the deposits and to give advice as to the best machinery and methods of manufacture of the brick.

The department has a down-draft muffle furnace, arranged to use oil or gas or fuel. Temperature as high as 1,750 degrees Centigrade may be reached. The temperature is controlled by a pyrometer, and burning is carried on at such a rate that it takes from 30 to 48 hours to complete one firing.

The material to be tested is ground and molded by hand in small metal molds. It is air-dried and then dried in an oven before being fired. Samples are taken at various temperatures beginning at temperatures at which common brick will burn and extending to temperatures of fire brick. The whole process is carried on similar to commercial methods of burning brick, and in this way information which will help determine the particular value of the clay is obtained.

After firing, tests are made on the shrinkage, the tensile strength, the hardness and the absorption of the brick. When promising results are obtained, a man is sent out to make further investigations and decide the feasibility of developing the deposit. The first visit has just been made, but full results have not been determined. Some clays have already proven very good; some are not so valuable. So far nothing has been found which comes up to the standard of fire brick, but some of the material is suitable for paving brick, and most of the samples are good enough for common building brick. The department expects to find better samples when the work gets further under way. It is the opinion of R. A. McNees who is in charge of the experimental work that new clay deposits would be very valuable now, because as the country has developed industrially, more building material is being needed. The shortage of lumber has increased the demand for clay building material, and the development of manufacturing industries in the state has called for more fire brick. This discovery of deposits of brick clay in Texas would mean millions of dollars to Texas in decreasing the freight rate and in bringing in new industries, Mr. McNees said.

Experiments in clay testing have just been started this year, and most of the work has been done since Christmas when the machinery and furnace were ready for operation. Mr. McNees hopes to have help during the summer when the work will be pushed. Bad weather interferes with collecting samples during the winter months. Work similar to these experiments has been carried on at universities in Illinois, Iowa and New Jersey, but the University of Texas is the first institution to begin work in Texas along this line.



Originality

Success is the desire of every man in his serious moments. To the man who is willing to pay the price it is a possibility. Success depends upon the ability of the man to express himself in his work. NOT in the blind, mechanical following of another man's thinking.

Learn from others. But learn to create YOUR own devices. Learn to think thru your own Problems. Forestall future failure by Present, Persistent Thinking and Study.—Selected.

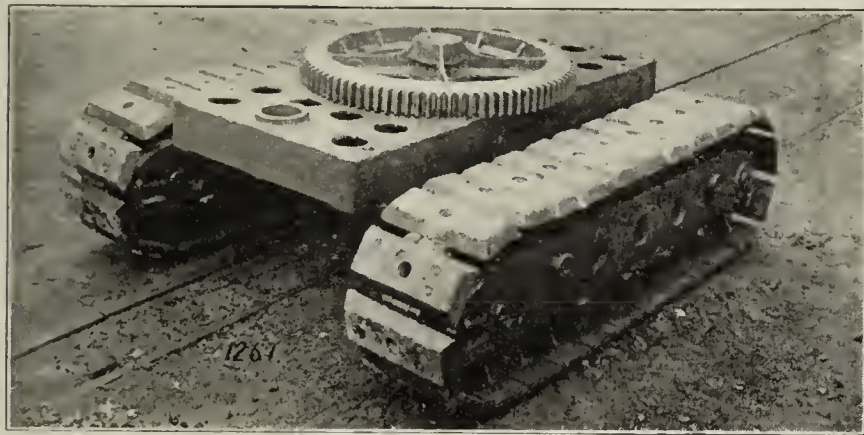
MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories
and Detailed Announcements that Our Ad-
vertisers Believe Will Interest Our Readers

Osgood Continuous Tread Truck for Steam Shovel

The Osgood Co., Marion, Ohio, have recently brought out a continuous tread truck for their Osgood 18, $\frac{3}{4}$ -yard revolving steam shovel, and a number of these machines have now been placed with some of the most reliable contractors and engineers who commend their performance very highly.

The continuous tread trucks are interchangeable with the traction wheel trucks and are easily attached to the underside of the cast steel truck frame. The outfit is very compact so as to interfere as little as possible with the operation of the dipper, and consists of two endless tread belts carried by adjustable cast steel side frames which are joined by two cross axles and with the truck frame resting on the axles. The treads are composed of pressed steel pans with oak filling, bolted to heavy cast steel links connected by hardened steel pins and passing around octagonal tumblers at the ends and supported on the bearing side by large rollers or wheels.



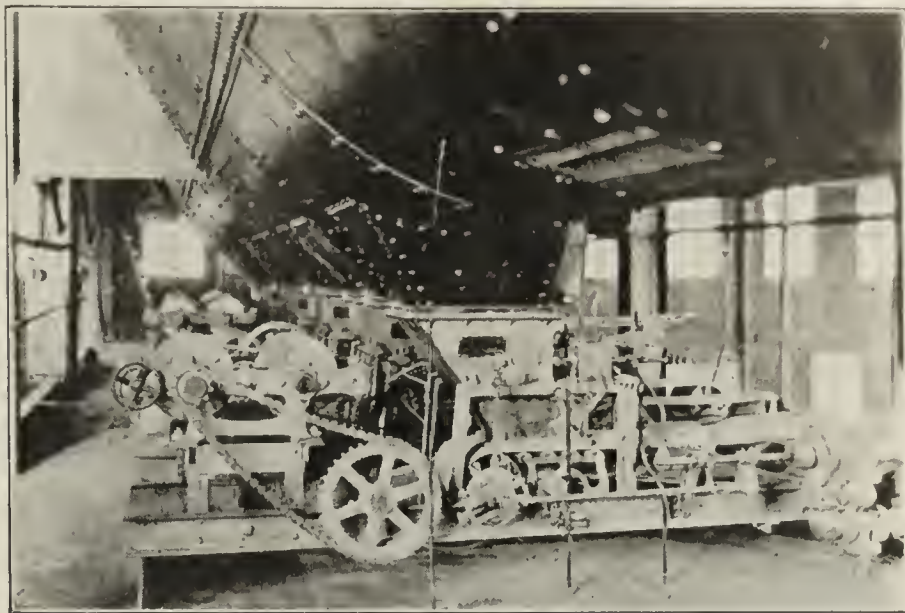
Showing Compact Construction of Continuous Tread Trucks. Note That Treads Extend but a Short Distance Ahead of Truck Frame.

Power for traveling is taken from a cross shaft underneath the truck frame to the driving tumblers on each side by means of two heavy sprocket chains, the chains being engaged to the driving tumblers with jaw clutches and are readily disengaged for steering. A simple locking device is provided for the disengaged tread belt which insures a short turning radius when required. All castings in the continuous tread trucks are of open hearth steel and all shafting and axles of forged steel.

That the machine has an especially high and wide dumping



Osgood 18, $\frac{3}{4}$ Yd. Shovel Owned by Bentz Brothers.

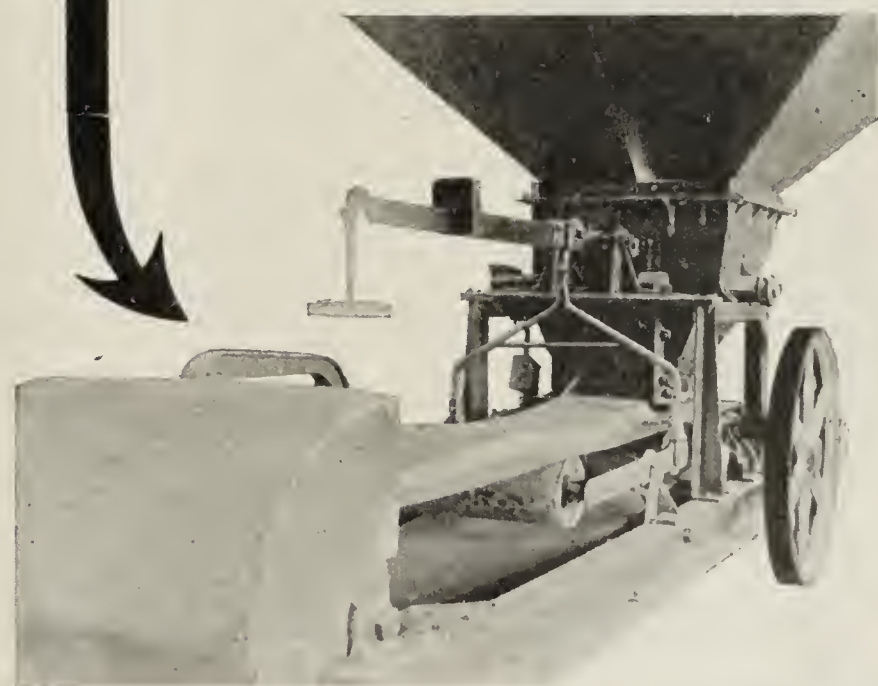


Balance the accuracy of the Schaffer Poidometer against the undependableness of your pug mill man.

The SCHAFFER weighs with an accuracy of 99.75% and at a rate of $1\frac{1}{2}$ to 21,000 pounds a minute, according to size and adjustment. Positively weighing and measuring without loss or waste.

It eliminates cracked ware in the dryer on account of the improved temper of the column.

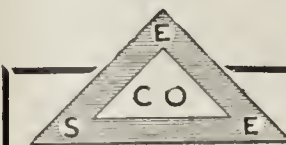
Write for complete data about the Schaffer and we will show you how you can increase your production with an elimination of labor, loss and waste.



Schaffer Engineering and Equipment Co.

Pittsburgh, Pa. Peoples Bank Bldg.

Chattanooga, Tenn. James Bldg.



PULSOMETER STEAM PUMP

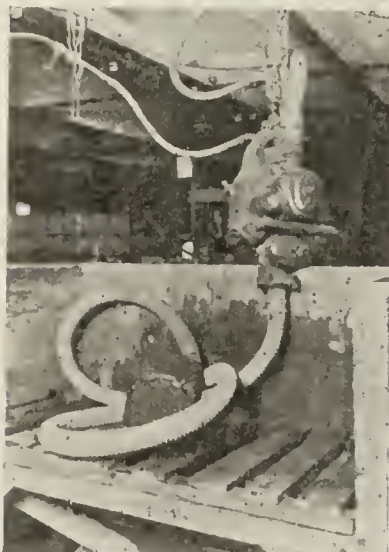


"We pump these thick gummy grindings through our *PULSOMETER*"



The grindings from the abrasive wheel are conveyed to a collection pit. Mixed with a little water, this thick gummy substance is raised by the *PULSOMETER* and pumped through a line to an adjacent lot outside.

The *PULSOMETER* disposes of this material with practically no human assistance. The intake is dropped in the pit, the steam turned on and the pump works incessantly until the pit is cleared.



Because there are no cams, rods, pistons, stuffing boxes, no moving or sliding parts, the *PULSOMETER* is highly efficient in pumping gritty heavy substances—40% solid matter doesn't stop it.

You, too, can use the *PULSOMETER* and save time, money, and labor. Get in touch with the nearest agent or write us.

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Waldo Bros. & Bond Company,
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Liberty Steel Products Co.,
McCormick Building CHICAGO
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Turner Supply Co. MOBILE, ALA.
Miller Supply Co. HUNTINGTON, W. VA.
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225 S. San Pedro St. LOS ANGELES, CAL.

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Hunter Machinery Co.,
208 Wells St. MILWAUKEE
Wm. H. Ziegler Company,
423 South 5th St. MINNEAPOLIS
Berow Machinery Co.,
220 West 42nd St. NEW YORK CITY
Harron, Rickard & McCene,
139 Townsend St. SAN FRANCISCO
Shippers' Commercial Corp'n.,
L. C. Smith Bldg. SEATTLE
Kelly Powell, Ltd. WINNIPEG, CAN.



Osgood 18, Continuous Tread Revolving Steam Shovel.

radius is shown by the illustrations of shovel owned by Bentz Brothers now working at Mogadore, Ohio. This feature is obvious to clay-product manufacturers, for it permits them to get an even mixture of the different strata at the same operation, also to load the material at a considerable height.

All Osgood 18 shovels are so constructed that they can easily and readily be equipped with a structural steel boom, boom hoist, etc., for clamshell, drag line or crane work. For such work the machine is generally equipped with a 30-ft. boom when used for clamshell or drag line service and equipped with a $\frac{3}{4}$ -yard bucket.

The company recently issued a catalog showing their entire line of steam shovels which range from $\frac{3}{4}$ to 6 cubic yards capacity. A number of illustrations are shown of their Osgood 18 doing road grading, cellar excavating, sewer trenching, railroad work, loading and unloading cars, working in gravel pits, working in clay yards, stone quarries, coal mining, coke yards, stripping, ditching, dredging, etc.

Conneaut Shovel to Build Own Rolling Mill

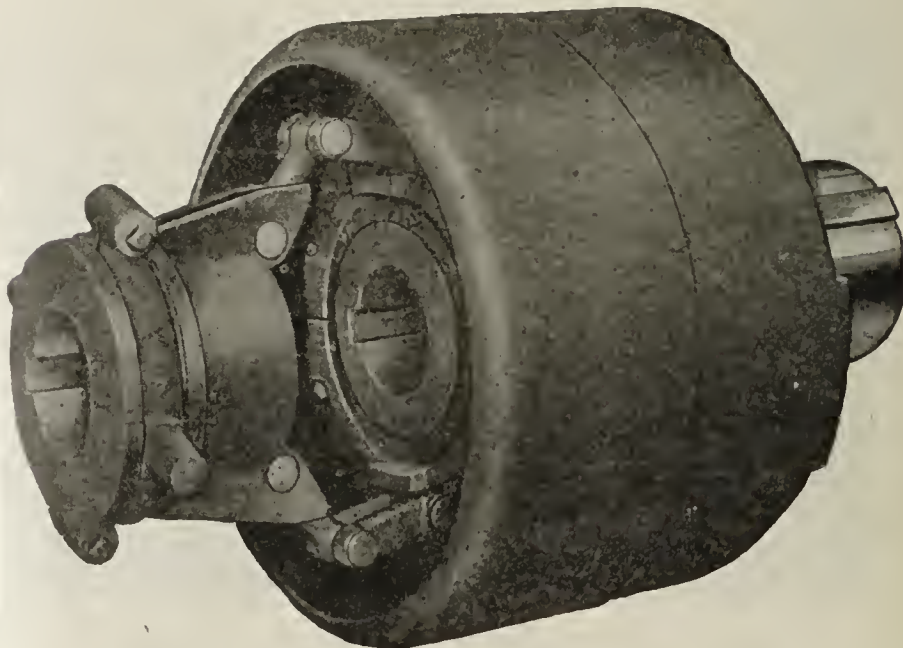
The Conneaut Shovel Co. has recently acquired ten acres of land immediately west of its plant in Conneaut, Ohio. A rolling mill is to be built there at some future time. Excellent switching connections are assured, as the land lies between two railroads, the New York Central and Nickel Plate.

The concern manufactures special hand shovels for various purposes. Its product is quite generally used in clay plants.

Link-Belt "Twyncone" Friction Clutch

The "Twyncone" friction clutch is one of the Link-Belt Co.'s newest achievements. The company announces that, among its many exclusive features, it has one-point adjustment, and all moving parts are inclosed, making for absolute safety. It is perfectly balanced, this in itself being a great advantage, as it allows the clutch to run at very high speed without causing it to "throw in" or out.

Construction of the "Twyncone" clutch is very simple, and the moving parts are reduced to a minimum. High speed does not affect its operation. It can be "eased in" when running at any speed. The friction cones are lined with thermoid. All parts are accessible, and can easily be replaced should the necessity arise.



Exterior View of the Link-Belt "Twyncone" Friction Clutch.

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 Bonnot Co.....1168
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 Bucyrus Co.....1228
 Burton Engineering & Machy. Co.1222

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BRICK and CLAY RECORD

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Standards of Practice for Business Publications

The publisher of a business paper should dedicate his best efforts to the cause of Business and Social Service, and to this end should pledge himself: 1. To consider, first, the interests of the subscriber. 2. To subscribe to and work for truth and honesty in all departments. 3. To eliminate, in so far as possible, his personal opinions from his news columns, but to be a leader of thought in his editorial columns, and to make his criticisms constructive. 4. To refuse to publish "puffs," free reading notices or paid "write-ups;" to keep his reading columns independent of advertising considerations, and to measure all news by this standard: "Is it real news?" 5. To

decline any advertisement which has a tendency to mislead or which does not conform to business integrity. 6. To solicit subscriptions and advertising solely upon the merits of the publication. 7. To supply advertisers with full information regarding character and extent of circulation, including detailed circulation statements subject to proper and authentic verification. 8. To co-operate with all organizations and individuals engaged in creative advertising work. 9. To avoid unfair competition. 10. To determine what is the highest and largest function of the field which he serves, and then to strive in every legitimate way to promote that function.

The EDITOR'S CORNER

A Year Hence

WHAT will the next twelve months bring in the way of organized, cooperative effort among the various divisions of the clay products manufacturing industry?

The world of men is moving rapidly these days. So quickly does one event follow upon the heels of another, that centuries are being crammed into decades.

We read of men in a by-gone age living for nine hundred years—he who did not pass the century mark seems to have been the exception—but now insurance statisticians tell us that most people “shuffle off this mortal coil” somewhere between thirty and forty.

In a year, the clay products manufacturing industry at this period of its history, should experience remarkable changes. While we do not claim to be a prophet, nor the son of a prophet, we believe that the next twelve months will see greater cooperative effort in the various divisions of the industry than ever before.

This has been the subject of much discussion and debate.

Already three of the national associations in the manufacturing fields of hollow building tile, face brick and paving brick, have leagued themselves together in common cause to bring about the equitable readjustment of existing freight tariffs which are manifestly unjust to the materials in question. It is patent that any one of these associations would have accomplished but little “going it alone.” Unified effort adds the necessary assurance of success.

A common slogan has been suggested—is being seriously considered. With efficient associations in the various branches of the clay products manufacturing industry, there is a tendency to get away from the fact that hollow tile, face brick, paving brick, common building brick, terra cotta, drain tile, sewer pipe, and so on are after all, one and all, **burned clay**. Face brick, paving brick, common brick, hollow building tile and sewer pipe are being pro-

moted by national advertising campaigns now in progress. A simple and suitable slogan to carry in every advertisement of all these branches of the industry telling the public that **burned clay** is best, is an opportunity, it would seem, that should not be neglected.

The various secretaries have considered the matter of a slogan and it is only a question as to the proper wording. When this has been decided, we believe that the idea will be adopted by most, if not all, of the clay products manufacturers' associations now conducting national advertising campaigns.

It is perfectly natural that, following the adoption and use of such a slogan, at a specified time during the year there should be some advertising devoted exclusively to “putting across” the message of **burned clay**.

Cement manufacturers have a slogan, “Concrete for Permanence”; clay products manufacturers should have a slogan, (this is merely suggestive) “**By frost, nor fire, nor flood, nor even time, is well burned clay destroyed.**”

The facts presented in a slogan such as this should be well covered in an advertisement in two or three publications such as the “Literary Digest,” “Saturday Evening Post,” “American Magazine,” and so forth, perhaps four times a year, the expense being borne by the various divisional associations in the clay products manufacturing industry. This has been suggested—it is being considered—and we believe it will be ultimately adopted.

Having covered the matter of freight tariffs, a common slogan and a limited amount of cooperative advertising of burned clay, there is one more subject upon which five or six divisional associations could work and that is the matter of technical investigation.

This subject was thoroly covered in the May 4 issue of **Brick and Clay Record**. That the editorial in this issue entitled, “A Practical Plan for Carrying Out Vital Research Work in the Clay Industry” has struck a responsive cord, is indicated by word of approval already received from interested parties. Steps toward the launching

of such a plan ought to be taken without further delay.

We still believe that the ONE BIG COMMITTEE idea is the one that will be ultimately adopted by the progressive members of the clay products manufacturing industry. Business men are not in a receptive mood to consider, condone, contribute to or carry on any more associations. All association machinery is multiplying with astonishing rapidity and there is danger of business being overburdened with this kind of effort. The ONE BIG COMMITTEE idea eliminates any need of another big national association in the clay products manufacturing industry with its attendant expense and its demands upon the time of its members. Let the boards of directors of the divisional associations constitute, or appoint others to constitute, a big national committee for carrying on the freight rate fight, the common slogan, a limited cooperative advertising campaign for burned clay, technical investigation, and secure the passage of good, or the defeat of bad proposed legislation, affecting the clay products manufacturing industry or any of its divisions.

A year hence? What will it bring? May we not see the consummation of such a progressive program?

* * *

The New Autocracy

RECENTLY, it is said, the journeyman plumbers of Chicago passed a resolution that no members of their organization would be permitted to work on any building where the entire drainage system from the building line was not laid with iron pipe.

"It is reported that the master plumbers have not agreed to this suggestion," says the monthly bulletin of the Illinois Society of Architects, "but if the recent successes of other unions who have made equally drastic demands are indicative as to the probable result, the cost of plumbing is going to enhance enormously, and when the scarcity of iron pipe is taken into account many buildings will be without drainage for months to come."

It is an accepted fact in most parts of the country that what is known as the house connection may be safely, satisfactorily and eco-

nomically made with vitrified sanitary salt glazed sewer pipe.

Because of the prejudice of some code writers, it is not always possible to lay a house connection with vitrified pipe. The objections of these gentlemen seem to center around the joint. Regardless of the merit of their protest they at least advance a reason.

But Chicago plumbers cannot be bothered with reasons. Like Lenine and Trotzky, their will is law! There is, of course, a method to their madness. Self-interest, in the last analysis, is the governing principle.

The public—well, the public don't count.

"How long," says the bulletin, "will it be before contractors, architects and owners will unite and insist that they should at least be consulted as to how they should spend their own money?"

* * *

Open Shop

AT THIS TIME, when there seems to be a determined effort to unionize the workers in the clay products manufacturing industry, it is well to point out that the United States Chamber of Commerce has just put itself on record for open shop. It is true that the Chamber is putting this proposition to the vote of its membership, but the statement is so worded that an adverse decision would amount to a repudiation of the Chamber's position, it would seem.

This statement, together with eleven other principles of industrial relations prepared by a special committee, appears on another page of this issue and will warrant careful reading at the hands of every clay products manufacturer.

* * *

Slogan Appears

SINCE WRITING the first editorial for this issue, we have run upon two pages of advertising copy used by the Hollow Building Tile Association which shows how the idea of a slogan, common to all branches of the clay products industry, has been put into use. Your attention is called to a reproduction of these pages which appears in another part of this issue so that you might see how the insertion of the slogan does not in any way interfere with the proper balance of the copy, but on the other hand, adds to its effectiveness.

PETITION I. C. C. AGAINST INCREASE OF

EXCERPT FROM PETITION

* * * The advance on brick rates amounted to an average percentage increase of sixty-one per cent. and many hundreds of shipping rates on brick were increased over one hundred per cent.

Traffic Committee of Three National Clay Associations Making the Fight for More Equitable Rates on Clay Products to Present a Brief to Interstate Commerce Com-

ARMED WITH CONCLUSIVE EVIDENCE and data that the clay products industry is being discriminated against in railroad freight rates at present existing, the joint traffic committee of the three national clay products associations who are making the fight for the industry, are now all set for the hearing scheduled before the Interstate Commerce Commission shortly after this issue of *Brick and Clay Record* goes to press.

The petition to be presented before the above body is in connection with the pending application of the carriers for increase in revenues. The petition states:

INTERESTS REPRESENTED

The National Paving Brick Manufacturers' Association, American Face Brick Association, and Hollow Building Tile Association represent producers of over 75 per cent. of the paving brick, face brick and clay hollow building tile manufactured in the United States and a large amount of the common building brick. The various members of these three associations operate plants in Official Classification Territory, Southern Classification Territory and Western Classification Territory, including the states of Ohio, Pennsylvania, New York, New Jersey, Michigan, Connecticut, California, Virginia, North Carolina, South Carolina, Georgia, Indiana, Illinois, Iowa, Kansas, Massachusetts, Texas, Kentucky, Alabama, Tennessee, Florida, Minnesota, Missouri, Washington, Nebraska, Colorado, Utah, Idaho, Oklahoma, and other states, and from these plants brick and clay hollow building tile are shipped in interstate and intrastate commerce to practically all the markets in the country.

POSITION OF CLAY PRODUCTS INDUSTRY

There is pending before this commission and set for hearing on July 7, 1920, a formal complaint, Case No. 10733, filed by these associations, comprehending the whole country, seeking the establishment of just, reasonable and non-discriminatory rates on brick and clay hollow building tile. In preparing this case for hearing the complainants employed an expert railroad statistician who has analyzed the earnings from the movement of brick and clay hollow building tile and compared same with the earnings from other freight traffic, and has tabulated in the form of exhibits a vast amount of data, which shows that this traffic is at this time in Official Classification Territory and Western Classification Territory paying substantially more than its fair share of the revenues of the carriers, demonstrating that the present structure of brick and tile rates as compared with rates on other bulk carload commodities, is unreasonably high and excessive.

In Southern Territory many commodity rates on this traffic are on a relatively fair level, but in that territory (and in a lesser degree in other territories) there is a lack of uniformity

and consistency in the brick rate structure, indicated, for example, by the fact that in many important parts of the South these heavy commodities move under class rates.

Before filing this formal complaint these complainants applied to the commission to institute a general investigation of the rates on brick and tile, which this commission declined to do while the railroads were under federal control. The purpose of the formal complaint was to invoke the full investigatory powers of the commission in connection with rates on brick and clay hollow tile between all points of origin and all points of destination in the United States, and after such comprehensive investigation to secure the establishment of a structure of rates on these commodities intrinsically and relatively just, reasonable and non-discriminatory.

WANT RATES IN HARMONY WITH NEEDED EARNINGS

This industry enters no protest against the brick and tile traffic paying the fair proportion of the needed earnings of the railroads, and the main purpose of this formal complaint is to secure a structure of rates in harmony with that principle.

The facts and figures hereinafter recited demonstrate the grave injustice to this industry that would result from allowing the general advances in rates now proposed to be super-added to the existing fabric of rates on brick and tile, and petitioners submit that any proposed readjustment of rates on brick and tile should be prescribed by this commission on the basis of the evidence taken upon the formal complaint, by which evidence the commission will be fully informed as to the present condition of rates on brick and clay hollow building tile and enabled to prescribe a structure of rates for these commodities that will produce their just share of the earnings of the carriers.

Daniel Willard concludes his statement for the carriers in Official Classification Territory by saying that the commission should act without delay and *use all information available*. Clear and comprehensive and trustworthy data as to brick and tile is available. It is believed that the evidence prepared by the complainants for the information and guidance of this commission in case No. 10733 is more exact, comprehensive and exhaustive than ever presented to this commission in a case involving rates on specific commodities. On the basis of that evidence complainants have worked out a structure of rates for this traffic in all territories, preserving fixed differentials and relationships, designed to be fair and just to both carriers and shippers. Whatever advances in rates are now necessary to meet the needs of the railroads for revenue should be applied to such structure of rates, and not applied to the present unfair, discriminatory and abnormal rates on this traffic.

CONCLUSION *in* GENERAL TARIFF RATES

mission Showing How Inequities to Clay Industry Resulting from General Order No. 28 Counterbalance Pending Proposals of the Carriers for General Rate Increases

GENERAL ORDER NO. 28 AND THE UNFAIR BURDEN IT CAST ON THE BRICK TRAFFIC

General Order No. 28, effective June 25, 1918, prescribed an advance in all rates on brick of 40 cents per ton, generally applied also on clay hollow building tile. This was avowedly a war measure and was designed to stop building and paving operations not necessary for war purposes, but it has never been modified, in spite of repeated promises of the Railroad Administration to modify same when war operations ended. The grave and palpable injustice resulting to this industry from General Order No. 28 has never been corrected.

For the same purpose, the brick industry during the war was curtailed in its production fifty per cent. by the United States Fuel Administration.

This industry was willing at that time, as it is now, to contribute its fair share to needed railroad revenue, but the effect of General Order No. 28 was to place an unfair, excessive and disproportionate burden on the brick industry.

Statistics prepared at that time and embodied in a protest filed with the United States Railroad Administration showed that while class and commodity rates in general were increased only twenty-five per cent. and in numerous instances less than twenty-five per cent. due to maximum limitations on such increases, *the advance on brick rates amounted to an average percentage increase of sixty-one per cent. and many hundreds of important shipping rates on brick were increased over one hundred per cent.*

Competitive materials under General Order No. 28 were given less advances. Sand, gravel, and crushed stone, which constitute about five-sixths of concrete, which is the chief competitive material with brick for paving and building, was increased only twenty cents a ton; lumber and wooden blocks twenty-five per cent. subject to maximums.

While cement was advanced two cents per one hundred pounds, the advance, tho equal in amount, did not place a relatively equal burden of freight charges on cement for the reason that cement is not in itself a paving or building material but is mixed with a greater proportion of sand, gravel or crushed stone, and a far greater amount of brick in weight goes into a given area of road or a wall than cement.

Brick and clay hollow building tile received under General Order No. 28 an advance sufficiently in excess of the advance on freight traffic in general to include the pending proposals of the carriers.

INDICATING THE UNJUST AND EXCESSIVE RATES

Tabulated data shows that rates on brick and clay hollow building tile, prior to June 25, 1918, were relatively unjust and unreasonable. This was prior to General Order No. 28, advancing all such rates 40 cents a ton.

G. W. Oliver, for a number of years statistician of the Santa Fe Railroad, has made a study based on all available

EXCERPT FROM PETITION

Brick and clay hollow building tile received under general order No. 28 an advance sufficiently in excess of the advance on freight traffic in general, to include the pending proposals of the carriers.

data of the earnings on brick and tile as compared with earnings on other freight traffic.

One portion of this study is based on actual shipments of 2,450,167 tons of brick and tile in C. F. A. and Trunk Line Territory, being shipments originating in the states of Illinois, Indiana, Ohio, Pennsylvania, New York, New Jersey and West Virginia, during the year 1916. Mr. Oliver shows the revenue under the 1916 rates from these shipments and shows the revenue thereon after applying the 1919 rate. The following table is a summary of this study:

Averages.	1916.	1919.
Haul per car-miles	166.48	166.48
Haul per ton-miles	163.57	163.57
Load per car-tons	34.68	34.68
Revenue per ton	\$ 1.12	\$ 1.65
Revenue per car	38.68	57.30
Revenue per car-mile	23.23¢	34.42¢
Revenue per net ton-mile—mills.....	6.82	10.10
*Gross ton-miles per car	9,546	9,564
Revenue per gross ton-mile—mills....	\$4.04	\$5.99

*Based on an average car's weight of 19 tons and the ratio of empty to loaded miles of 25.2 per cent. for box cars used by carriers in the Railway Mail Pay Case (56-1CC-1).

Mr. Oliver has also made a study of shipments in Southern Territory, originating in the states of Alabama, Kentucky, Tennessee, North Carolina, South Carolina and Virginia during the year 1916, including therein actual shipments of 147,972 tons, the result of which study is shown by the following table:

Averages.	1916.	1919.
Haul per car-miles.....	412.78	412.78
Haul per ton-miles.....	433.44	433.44
Load per car-tons.....	32.66	32.66
Revenue per ton.....	\$ 1.98	2.39
Revenue per car.....	64.76	78.19
Revenue per car-mile.....	56.69¢	68.94¢
Revenue per net ton-mile—mills.....	4.57	5.52
*Gross ton-miles per car.....	24,468	24,468
Revenue per gross ton-mile—mills....	\$2.65	\$3.20

*Based on an average car's weight of 19 tons and the ratio of empty to loaded car miles for box cars of 25.2 per cent. used by carriers in the Railway Mail Pay Case (56-1CC-1).

SHOWS TRAFFIC FIGURES OF WESTERN TERRITORY

Mr. Oliver also made a study of this traffic in Western Territory, based on actual shipments of 389,715 tons during the year 1916, originating in the states of Missouri, Kansas, Oklahoma and Texas, the result of which study is shown by the following table:

Averages.	1916.	1919.
Haul per car-miles.....	218.46	218.46

Haul per ton-miles.....	20.85	220.85
Load per car-tons.....	33.68	33.68
Revenue per ton.....	\$ 1.41	\$ 1.85
Revenue per car.....	47.63	62.33
Revenue per car-mile.....	21.80¢	28.53¢
Revenue per net ton-mile—mills.....	6.40	8.38
*Gross ton-miles per car.....	12,533	12,533
Revenue per gross ton-mile—mills....	\$3.79	\$4.97

*Based on an average car's weight of 18.5 tons and the ratio of empty to loaded car miles for box cars of 25.2 per cent. used by carriers in the Railway Mail Pay Case (56-1CC-1).

Combining all territories, including actual shipments of 2,972,854 tons in the year 1916, the following results:

Averages.	1916.	1919.
Haul per car-miles.....	186.28	186.28
Haul per ton-miles.....	184.41	184.41
Load per car-tons.....	34.44	34.44
Revenue per ton.....	\$ 1.20	\$ 1.71
Revenue per car.....	41.23	59.06
Revenue per car-mile.....	22.13¢	31.71¢
Revenue per net ton-mile—mills.....	6.49	9.30
*Gross ton-miles per car.....	10,738	10,738
Revenue per gross ton-mile—mills....	\$3.84	\$5.50

*Based on an average car's weight of 19 tons and the ratio of empty to loaded car miles for box cars of 25.2 per cent. used by carriers in the Railway Mail Pay Case (56-1CC-1).

All the foregoing tables included only shipments from plants manufacturing face brick, paving brick and clay hollow building tile, and if shipments of a bulk of the common brick in the various territories was included, the disproportionately high earnings on clay products would stand out even more clearly.

GIVES TRAFFIC FIGURES FOR SEVERAL STATES

Mr. Oliver has also made a study and prepared exhibits for use in evidence in case No. 10733, based on the brick and tile traffic for the period from June 25, 1918, to April 30, 1919, inclusive, covering shipments from plants in the states of Illinois, Indiana, Ohio, Pennsylvania, New York, New Jersey, West Virginia, Virginia, Alabama, Kentucky, South Carolina, Tennessee, Missouri, Kansas, Oklahoma and Texas, including actual shipments of 1,258,956 tons, showing an average loading per car of 36.9 tons; an average haul of 184 miles; a revenue per ton-mile of \$1.76; and a revenue per car-mile of 34.7 cents; and a revenue per net ton-mile of 9.6 mills.

Mr. Oliver also made an exhaustive study of earnings from all freight traffic in the country. His complete work is shown in an exhibit of 66 pages, now available for the inspection of this commission.

He shows for the Eastern District an average haul per ton on all freight, as reported, of 138.26 miles, as compared with 136.57 miles on brick; an average loading in tons per car of all freight of 26.2 tons, and for brick 35.68 tons; and an average revenue per ton from all freight of \$0.89, as compared with \$1.12 on brick and tile; and an average revenue per car, as reported, of \$23.16 on all freight as compared with \$38.68 on brick and tile; and an average revenue per car per mile of 16.82 cents on all freight, as compared with 23.23 cents per car per mile from brick; and an average revenue per gross ton per mile on all freight of 3.04 mills as compared with 4.04 mills, from brick and tile.

HIGH RELATIVE LEVEL OF BRICK EARNINGS

A similar study was made for the year 1919, demonstrating, again, the high relative level of brick earnings, showing a revenue per car per mile on all freight (in cents) of 26.92, and from 37.60; and an average per gross ton-mile on all freight of 4.57 mills, as compared with 6.16 mills from brick and tile.

Similar studies were made for the Southern District and the Western District.

For the Southern District, the average haul on all freight, as reported, for the year 1916, was 207.02 miles, and on brick 433.44 miles; the average loading of all freight per car was 24.97 tons, and of brick it was 32.66 tons; and an average revenue per car-mile on all freight of 15.52 cents, and on brick 15.69 cents; and an average revenue per gross ton-mile on all freight of 2.90 mills, as compared with 2.65 mills from brick and tile. Note the much longer haul of brick.

In the Western District for the year 1916 the average haul per ton of all freight, as reported was 206.13 miles, and of brick 220.86 miles; and an average loading per car of all freight was 21.47 tons, and of brick 33.68 tons; and the average per car-mile revenue (in cents) from all freight was 17.96 cents and from brick 21.80 cents; and an average revenue per gross ton-mile on all freight of 3.65 mills, as compared with 3.79 mills from brick and tile.

DESIRABILITY OF BRICK TRAFFIC

Consider the foregoing figures in the light of what this commission has said on *Brick Rates from Ohio Points* to Huntington, 28 I. C. C. Reports, 292, i. e.:

"From the standpoint of loading, lading, value risk, volume and other considerations, which tend to determine the reasonableness of rates, the commission has held that brick is a desirable traffic and should be accorded a low rate as compared with most other traffic."

And again in another case (17 I. C. C. Reports, 197):

"Brick is a very desirable traffic. It moves in large volume, can be loaded to the full capacity of cars, and is not subject to loss and damage. Paving and low grade fire brick move in any sort of freight equipment except flat cars and are a low grade commodity. These elements seem to call for the making of low rates."

And in still another case (19 I. C. C. Reports, 532):

"Brick is a desirable traffic to handle. It moves in large volume, and can be loaded to the full capacity of cars, and is not subject to loss and damage. Paving and low grade fire brick move in any sort of freight equipment except flat cars and are a low grade commodity. These elements seem to call for the making of low rates."

And in still another case (19 I. C. C. Reports, 532):

"Brick is a desirable traffic to handle. It moves in large quantities, and the cars can be loaded to their full capacity, and is not subject to loss and damage. All these elements should be considered in the making of a rate and call for a low rate."

BRICK RATES SHOULD BE REDUCED

The conclusions of Mr. Oliver from his study of the earnings from the brick and tile traffic as compared with other freight traffic in Central Freight Association and Trunk Line Territories is:

"That if brick should be charged with the average carload terminal allowance and with the same average line revenue per gross ton-mile, as was paid by all freight in 1919, brick rates should be reduced at least 20 per cent.; or, if brick should be charged with the average carload terminal allowance and with the same average line revenue per car-mile as was paid by all freight in 1919, brick rates should be reduced at least 23 per cent."

Commenting on the foregoing, Mr. Oliver states that while the foregoing equalization takes care of the fact that brick does not have to be loaded and unloaded as does less than carload freight, and the fact that it requires but a relatively small part of the time of station employes, whose time is largely devoted to the handling of matters relating to L. C. L. freight, nevertheless there are:

ADVANTAGES OF BRICK TRAFFIC

"Other transportation advantages in connection with brick traffic which it is not possible to value in a percentage, but the importance of which require that they be given consideration, are as follows:

(a) Expedited service given to perishable freight which is not accorded brick.

(b) Almost entire absence of risk in the transportation of brick.

(c) Transit and Reconsignment Privileges which are extensively used by many commodities but not by brick.

(d) Requirements as to special equipment, such as refrigerator cars for perishable traffic weighing at least 10,000 pounds more than box cars of the same capacity. Grain doors for box cars to be loaded with bulk grain. Live stock cars which can be used for only a limited number of other return commodities, brick often times utilizing all or part of the return movement of such cars. Coal, coke, ores, stone and sand generally require open cars. Oil and other liquid freight require tank cars. Brick traffic is loaded in box cars, in stock cars, and in open top cars; stock and open top cars being used when it is to the carriers' advantage to furnish such cars, so that the empty haul requirements for brick traffic are probably lower than for any other important commodity. Cars without doors, with leaky roofs, and with defective floors are often used for brickloading, such cars being unsuitable for many other classes of traffic.

(e) Cleaning and inspection of cars is quite an item of expense to the carriers, which service is at a minimum in the transportation of brick.

(f) Maintenance and operation of stock pans and chutes.

(g) Cost of weighing cars, switching expense in connection therewith, and truck scale maintenance. Brick is generally shipped under estimated weights.

(h) Expense incurred in connection with the auditing of waybills and the settlement of loss and damage claims which was not equalized in the terminal adjustment made in the comparison between brick and freight and which applied to brick in only a small degree.

(i) There is no switching due to classification of owner's cars. This service is required in the case of privately owned tank cars and other private cars, all of which must be switched in order according to owners so that they may be readily placed at shipping points.

(j) There is no detention of cars loaded with brick due to inspection or due to the assembling of cars at points of origin such as prevails in the coal, grain, fruit, and other traffic and cars loaded with brick are promptly unloaded at destination.

(k) The bulk of the brick traffic moves in the summer months when operating costs are relatively lower. Brick is in continuous movement in large volume between March 1 and November 30, during which period approximately 90 per cent. of the yearly tonnage is handled. This applies to the paving and building industry and not to fire brick, which is continuous movement thruout the year.

SOME OPPOSING FACTORS

"As opposed to the foregoing unmeasured items favoring lower rates on brick, it should be mentioned that no allowance for switching absorptions which have been excluded from freight revenue was made in making the comparison with all freight. In 1916 the switching revenue of rail carriers plus the total operating revenue of switching and terminal companies was 4.5 per cent. of the freight revenue of rail carriers in the Eastern District. It is not known what proportion of this accrued from absorbed switching.

"Another opposing item: In the foregoing equalization between brick and all freight the line revenue for all freight for a 141 mile single line haul has been applied to the 165 mile

thru haul for brick which moves on an average over 1.6 lines, or the equivalent of a one line haul of 102 miles. A slightly higher line rate per mile should be used for a 102 mile haul than for a 141 mile haul."

In addition to equalizing the brick rates in line with the transportation service, a further equalization should be made to allow for the lower average value of articles carried in the brick lists and recognize the fact that brick on the average is less able to bear the transportation charge than the average of all freight traffic. In other words, we have heretofore given consideration to the service given the average of all brick as contrasted with the service given the average of all commodities. It is next then proper to consider the relative value of the service to the property carried, that is to say, the articles included in the brick list. The value of the service to the average of all brick is relatively lower than the value of the service given to the average of all other commodities. The carriers have repeatedly fixed rates, and the Interstate Commerce Commission has repeatedly approved rates on certain commodities more than 10 per cent. less than other commodities where all the rate making elements were the question as compared with the other commodities. Adhering to this principle, it is suggested that the brick rates in addition to equilization for certain approximately ascertainable relative coats referred to above could well be allowed 10 per cent. further reduction in recognition of the value of the service principle.

BRICK RATES AT LEAST 25 PER CENT. TOO HIGH

"Summarizing, present brick rates are shown to be at least 20 per cent. too high if paying the average carload terminal allowance and the same average revenue per gross ton-mile for line service as paid by all freight; too high by the extent to which loss and damage on all freight exceeds that for brick; too high by reason of certain important unreasonable transportation advantages attaching to brick traffic. In addition to these items consideration of the relative value of the service of brick traffic warrants a further reduction in order to place brick in a proper relationship to other commodities justified by its low value and its classification. *All of these considerations may be subject to some variation, but on the whole justify a reduction in the brick revenue of at least 25 per cent.*

The conclusion that brick rates as compared with other freight rates are on the whole 25 per cent. too high in Official Classification Territory is the result of study as accurate comprehensive, and exhaustive as can be made.

THE VITAL INTEREST OF THIS INDUSTRY IN INCREASING FREIGHT CHARGES

Freight charges being based on weight, general advances in rates, tho apparently uniform, operate directly to place a greater burden on brick and tile than they do on competitive materials because when clay products are used for paving or building, a far greater amount of material in weight undergoes railroad transportation than when competitive products are used.

To illustrate, it requires:

Ten tons of brick to build as much wall as one ton of lumber.

Six tons of brick to build as much wall as one ton of cement.

Twenty tons of brick to face as much wall as one ton of stucco.

Thirteen and two-tenths tons of brick to pave as much road as one ton of asphalt.

Two and sixty-five one-hundredths tons of brick to pave the same area as creosoted blocks.

The competition between brick and tile is bidding for work as against cement, lumber, stucco, asphalt and creosoted blocks is keen and close, and the effect of horizontal advances in

rates, without giving special consideration of the brick and tile, will inevitably be the destruction of the brick and tile business and the transfer of the work of paving and building almost entirely over to lighter competitive materials. The cost of delivered brick, due to its heavy weight and the great amount that must be transported for a job, becomes prohibitive.

FURTHER ADVANCE ON BRICK AND TILE RATES WILL NOT BENEFIT CARRIERS.

The figures above given, showing that when brick is used for building or paving a far greater portion of the aggregate material undergoes railroad transportation and pays freight charges, indicates the interest of the carriers in not creating a structure of rates that will turn over the business of building and paving to the lighter competitive materials. Competitive materials like crushed stone, sand and gravel are usually obtained locally and teams to the job and the railroads get no haul.

The railroads are seeking increased revenue. A general advance in rates on brick and tile at this time will not produce increased revenue to the carriers, because it will operate inevitably to curtail this desirable and profitable traffic.

Railroads thrive on tonnage, and when rates become so high as to destroy and prohibit traffic, they react to the disadvantage and loss of the carriers. The conditions, so far as the brick and tile industry are concerned, that make it unwise from the standpoint of the carriers to increase these rates at this time are real and not imaginary, and the matter is worthy of the earnest consideration and study of the carriers. It will do the carriers no good to put brick in opposition where it cannot stand up on account of its heavy loading against lighter competitive materials in bidding on new work, because paving and construction enterprises will gradually go to the competitive materials which are substantially lighter in tonnage and which produce considerably less earnings for the carriers.

There is no reason or justification for perpetuating the extraordinary advance in General Order No. 28. Still less reason would there be for adding thereto another advance, and working gross discrimination against this industry.

As this commission has many times stated (Brick Rates From Ohio Points to Huntington, 28 I. C. C. Reports, 2921), brick is a desirable and profitable tonnage for the carriers. It loads very heavy and in the widest range of equipment. In Case No. 10733 a minimum of sixty thousand pounds will be proposed by the complainants. Brick and tile give a loaded movement for many cars which, without the brick traffic, would be returned empty. The proportion of empty car mileage on brick is materially lower than the average for any other important commodity. Brick gives cars full revenue loading; it is the heaviest loaded commodity; shipped in the widest range of equipment. There is no special or expedited service. The bulk of the traffic moves during months when the cost of operation is lowest. Claims for loss, damage and injury are negligible.

RELATIONSHIP AND DIFFERENTIALS

We beg further to suggest that when brick and tile rates are readjusted to a proper basis as compared with rates on other carload freight, then in determining a proper measure of advances as to this traffic the following principles should be observed:

In no event should there be a percentage advance in brick and tile rates without a limitation in the form of a maximum advance per ton. There is a certain amount of this traffic that moves on long hauls under rates that are relatively high. To add a percentage advance to this long haul traffic of this low grade heavy loading commodity would in a great measure prohibit such movement. At the same time to add a flat

advance per ton to all shipments would unduly burden the short haul movement.

There should also be a further limitation in applying such advances so as to preserve the relationships and differentials between producing districts to common markets. Many of the rates on brick and tile, especially in Official Classification Territory, have long been established on a differential basis, and with fixed relationships between competing producing points to common markets. A percentage advance disrupts this relationship, which is vital to the industry and important to the carriers. Therefore, any advance should be upon the basing rate and the other rates related to it upon the established differentials. This should be done in the first instance in applying the advance and not be left to be worked out at some future time. The disturbance of the relationships in brick rates caused by the 5 per cent. and 15 per cent. advances have not all been corrected.

CONCLUSION AND PRAYER

This inquiry for the purpose of securing a complete investigation of rates on brick and tile, and the readjustment of such rates on a basis that is fair to the carriers, the public and the industry, and on a basis that will produce a fair and just share of railroad earnings, filed its comprehensive formal complaint about a year ago and at great expense has prepared data as accurate and comprehensive as is possible to accumulate, to be used in working out a just and proper structure of rates on this traffic.

This case will come to hearing at a very early date. The complainants are ready to proceed. The evidence taken in that case will show the condition of brick rates generally and the revenues from the traffic as compared with other freight traffic.

We respectfully and earnestly submit that there should be no general change in brick and tile rates in advance of that hearing and without the information which it will disclose.

While we keenly realize the condition of the finances of the carriers and their need for greater revenue, we nevertheless feel, and earnestly submit, that in view of the grave injustice done to this industry by the excessive advances in General Order No. 28 still unmodified, and in view of the further fact that it can, and it will be statistically demonstrated that brick rates generally are relatively too high as compared with other freight traffic, that this traffic must be given special consideration and not included in a general advance.

In view of the foregoing the three associations above named appearing in behalf of all their members, pray that the commodities which they represent may not be included in any general advance of freight charges ordered in this case and that the matter of readjustment of rates on such traffic be considered and determined in Case No. 10733.

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Spend Over Twenty Billions for Luxuries

Secretary Houston said in an address in New York on May 26, that a recession of prices cannot be expected unless production and distribution are improved here and abroad, and there is a gradual deflation of credit. He said: "There are some signs already that individuals especially are beginning to control expenditures, altho experts tell me that the expenditure this year on what the Treasury reckons as luxuries would exceed \$20,000,000,000." He said, also: "The American people are eating candy at the rate of \$1,000,000,000 a year, yet they complain of sugar shortage."

INJECT NEW FEATURE *into* ADVERTISING "PAVERS"

National Paving Brick Manufacturers Association to Place Signs Containing Their Trade-Mark on New Paving Projects Thruout the Country—Some Advertising Copy That Is Now Appearing in Publications

ALTHOUGH MUCH has been written concerning the advertising campaigns being conducted by the various clay associations, and even the *Brick and Clay Record* has already published a story on how the National Paving Brick Manufacturers' Association has inaugurated an advertising campaign built around the "tax payers' value," there is still more to be said about the publicity work of the paving brick manufacturers. The National Paving Brick Manufacturers' Association has added a new feature to its advertising campaign which is uncommon to any of the schemes used by other associations.

The tax payer will have to pay more attention to the expenditure of his money by public officials, whether he wishes to or not. This is true whether he pays taxes in the form of taxes or in the form of rent. Conditions in this country in the last few years may have inspired this view among tax payers, but it is the belief of those who have a method, plan, commodity or what you will, that is of real benefit to the people, that the same people by proper suggestion can come to realize that they can get what they want for their tax or rent money from those entrusted with the distribution of the tax moneys.

It is largely with this same view toward really benefitting the people of the country in a problem that is almost daily becoming more acute, rather than for material gain for its members, that the National Paving Brick Manufacturers' Association, with headquarters in Cleveland, Ohio, is launching a significant educational campaign of a different nature. Linked up with this scheme there will likewise be a benefit to contractors and material interests.

The association, in connection with its nation-wide advertising campaign, is distributing broadcast large signs that will mark roads under repair or construction. The work will not be confined to any one section or sections of the country. Wherever new paving or repair work on roads or streets is being carried on these signs will be used.

These signs can be had for the asking by contractors, public officials, tax payers and others interested in speeding the completion of roads and streets under construction this summer.

Several different types of signs are in use, such as "Street Closed," "Road Closed," and "Detour." All of these signs will carry the trade-mark of the National Paving Brick Manu-



One of the Above Paving Brick Ads Shows Some of the Signs Used to Mark Roads Under Repair or Construction.

facturers' Association—a brick road passing thru fertile fields.

It is this trade-mark that the Association and its regional association members seek to impress upon the mind of the public. Combined with the example of brick paving under construction where the signs will be used, it is expected that the automobile tourists and all others who are large users of roads, will carry home a strong impression of the real service giving value of brick roads, and the responsibility of the tax payer to look after the distribution of his own money in taxes, for road work in his own community.

Already some four thousand of these signs have been distributed. It is fully expected that about ten thousand signs will be needed, altho this number will be largely dependent upon the number of paving jobs going on this summer thru-out the country. These signs will be distributed from the headquarters of the territorial associations which are:

Eastern Paving Brick Manufacturers' Association, 412 Lincoln Building, Philadelphia, Pa.

Southern Paving Brick Manufacturers' Association, 812 Volunteer Building, Chattanooga, Tenn.

Ohio Paving Brick Manufacturers' Association, Hartman Building, Columbus, Ohio.

Western Paving Brick Manufacturers' Association, Dwight Building, Kansas City, Mo.

Indiana Paving Brick Manufacturers' Association, 502 Fidelity Trust Building, Indianapolis, Ind.

Illinois Paving Brick Manufacturers' Association, 921 Chamber of Commerce Building, Chicago, Ill.

Contractors, engineers, automobile clubs and similiar interests will also have quantities for distribution.

In order to give some direct benefit to those interested in brick road construction, another sign will be used, one-half of which will show the name of the firm supplying the material, and the other half the name of the contractor doing the work.

Advertisements have been prepared which show and illustrate the nature of these signs in the layout. These advertisements are being placed in automobile club journals and other publications reaching the largest number of persons interested in better roads.



NATION'S BUSINESS MEN NOW VOTING *on* IMPORTANT DECLARATION *of* INDUSTRIAL RELATION PRINCIPLES

TWELVE PRINCIPLES of industrial relations, prepared by a special committee, were sent out to a vote on June 9 to the more than thirteen hundred industrial and commercial organizations comprising the membership of the Chamber of Commerce of the United States.

The principles are intended to include the fundamentals of employment relations. The committee that drew them up is composed of members of the chamber's board of directors. It was appointed after the close of the President's First Industrial Conference to consider the principles presented by the employers' group in the conference.

The committee's report, containing the proposals submitted for a vote is given as follows:

Employers' relations in American industry should accord with and express those ideals of justice, equality and individual liberty which constitute the fundamentals of our national institutions. The terms of employment should conform to the essential requirements of economic law and sound business practice. They should, thru intelligent cooperation, based on a recognition of mutuality of interest conduce to high productive efficiency. They should reflect in ever-increasing degree an effort to realize broad ideals of individual and social betterment. In government and public service employment the orderly administration of government must be assured, and the paramount interest of the public protected. With these essential purposes in view, and conscious of the obligation of management to insure their observance and practical operation in industrial affairs, the Committee on Industrial Relations of the Chamber of Commerce of the United States of America, states its belief in the following principles:

I.

Any person possesses the right to engage in any lawful business or occupation, and to enter, individually or collectively into any lawful contract, either as employer or employee. These rights are subject to limitation only thru a valid exercise of public authority.

II.

The right of open-shop operation, that is, the right of employer and employe to enter into and determine the conditions of employment relations with each other, is an essential part of the individual right of contract possessed by each of the parties.

III.

All men possess the equal right to associate voluntarily for the accomplishment of lawful purposes by lawful means. The association of men, whether employers, employes or others, for collective action or dealing, confers no authority over, and must not deny any right of, those who do not desire to act or deal with them.

IV.

The public welfare, the protection of the individual and employment relations require that associations or combinations of employers or employes, or both, must equally be subject to the authority of the state and legally responsible to others and that of their agents.

V.

To develop with due regard for the health, safety and well-being of the individual, the required output of industry is the common social obligation of all engaged therein. The restriction of production effort or of output by either employer or employe for the purpose of creating an artificial scarcity of the product or of labor is an injury to society.

VI.

The wage of labor must come out of the product of industry and must be earned and measured by its contribution thereto. In order that the worker, in his own and the general interest, may develop his full productive capacity, and may thereby earn at least a wage sufficient to sustain him upon a proper standard of living, it is the duty of management to cooperate with him to secure continuous employment suited to his abilities, to furnish incentive and opportunity for improvement, to provide proper safeguards

for his health and safety and to encourage him in all practicable and reasonable ways to increase the value of his productive effort.

VII.

The number of hours in the work day or week in which the maximum output, consistent with the health and well being of the individual can be maintained in a given industry should be ascertained by careful study and should never be exceeded except in case of emergency, and one day of rest in seven, or its equivalent, should be provided. The reduction in working hours below such economic limit, in order to secure greater leisure for the individual, should be made only with full understanding and acceptance of the fact that it involves a commensurate loss in the earning power of the workers, a limitation and a shortage of the output of the industry and an increase in the cost of the product, with all the necessary effect of these things upon the interests of the community and the nation.

VIII.

Adequate means, satisfactory both to the employer and his employes and voluntarily agreed to by them, should be provided for the discussion and adjustment of employment relations and the just and prompt settlement of all disputes that arise in the course of industrial operation.

IX.

When, in the establishment or adjustment of employment relations, the employer and his employes do not deal individually but by mutual consent such dealing is conducted by either party thru representatives it is proper for the other party to ask that these representatives shall not be chosen or controlled by, or in such dealing in any degree represent, any outside group or interest in the questions at issue.

X

The greatest measure of reward and well-being for both employer and employe and the full social value of their service must be sought in the successful conduct and full development of the particular industrial establishment in which they are associated. Intelligent and practical co-operation based upon a mutual recognition of this community of interest, constitutes the true basis of sound industrial relations.

XI.

The state is sovereign and cannot tolerate a divided allegiance on the part of its servants. While the right of government employes—national, state or municipal—to be heard and to secure consideration and just treatment must be amply safeguarded, the community welfare demands that no combination to prevent or impair the operation of the government, or of any government function shall be permitted.

XII.

In public service activities, the public interest and well being must be the paramount and controlling consideration. The power of regulation and protection exercised by the state over the corporation should properly extend to the employes in so far as may be necessary to insure the adequate, continuous and unimpaired operation of public utility service.

The members of the committee submitting the report, are:

William Butterworth, chairman, manufacturer, of Moline, Ill., president Deere & Company, manufacturers of agricultural implements; formerly president of the Illinois Manufacturers Association, and of the National Implement and Vehicle Association.

Frederick J. Koster, vice-chairman, manufacturer, of San Francisco; chairman, the Koster Co., formerly president San Francisco Chamber of Commerce, a director of the California Development Board.

Max W. Babb, manufacturer, of Milwaukee, vice-president Allis Chalmers Manufacturing Co., member of the Milwaukee Association of Commerce, and of the Wisconsin State Manufacturers Association.

W. L. Clause, manufacturer, of Pittsburgh, chairman of the board, Pittsburg Plate Glass Co., and a director in the Pittsburgh Chamber of Commerce.

M. J. Sanders, engaged in ocean shipping and foreign trade, New Orleans, recently federal manager Mississippi waterways, formerly president New Orleans Board of Trade.

Henry M. Victor, banker and manufacturer, Charlotte, N. C., president Union National Bank of Charlotte, and a director in cotton mills.

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We Produce Only——

E. H. Gary, chairman of the American Iron and Steel Institute, in an address before that body at its annual meeting, said: "As frequently stated, notwithstanding the United States has only six per cent. of the world's population and seven per cent. of the world's land, yet we produce 20 per cent. of the world's supply of gold, 25 per cent. of the world's supply of wheat, 40 per cent. of the world's supply of iron and steel, 40 per cent. of the world's supply of lead, 40 per cent. of world's supply of silver, 50 per cent. of world's supply of zinc, 52 per cent. of world's supply of coal, 60 per cent. of world's supply of cotton, 60 per cent. of world's supply of aluminum, 60 per cent. of world's supply of copper, 66 per cent. of world's supply of oil, 75 per cent. of world's supply of corn, 85 per cent. of world's supply of automobiles.

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Safety of the Public is the Supreme Law

In a debate in New York, May 28, between Samuel Gompers and Governor Allen of Kansas, Mr. Gompers said: "If you attempt to outlaw strikes by legislation, depend upon it your law will be futile, and you will simply make criminals and lawbreakers of workmen who are honest, patriotic citizens." Governor Allen came to defense of Kansas Industrial Court, building his argument on premise that "the safety of the public is the supreme law." He declared that this was the fundamental axiom upon which he and his supporters were working, and which governed his attitude toward capital, labor and disputes which rise between them.

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Insist Upon a "Just Reward"

B. M. Jewell, acting president of the Railroad Shopmen's Department, testified May 28 before the Railroad Labor Board that officials of railroad employes' organizations not only will feel compelled to refrain from trying to prevent the men from leaving railroad service, but will acquiesce in such action if taken, unless the Board grants prompt and just wage increase. He declared any award not including a minimum wage of \$2,500 a year for common labor in railroad crafts, establishment of differentials taking into consideration hazard, experience and responsibility, and consideration by the Board of national agreement made when roads were under Federal control, would not be considered a "just reward."

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In its analysis of May business conditions, the Federal Reserve Board sees little relief from general reign of high prices, despite recent price reductions. Expressed the view that there has been no change in underlying conditions responsible for the high cost of living.

CUT COST *and* MINIMIZE DIFFICULTY *in* HANDLING CLAY

How a Face Brick Concern Built a Unique Clay Handling System Which Stores Clay and Conveys It to the Dry Pans Automatically and at Low Cost

FINDING A MAN or a concern that is readily willing to supply you with liberal information and data on the installation of new equipment or about a special plant feature, is not always an easy task. However, *Brick and Clay Record* was fortunate in unearthing a concern with whom there is a superintendent that extended the fullest cooperation in the preparation of this article. The machinery and installation described in this manuscript is of extensive interest among clay producers and the industry can acquire valuable knowledge about a clay storage and handling installation which two years' trial has proven eminently successful, by reading its description herewith.

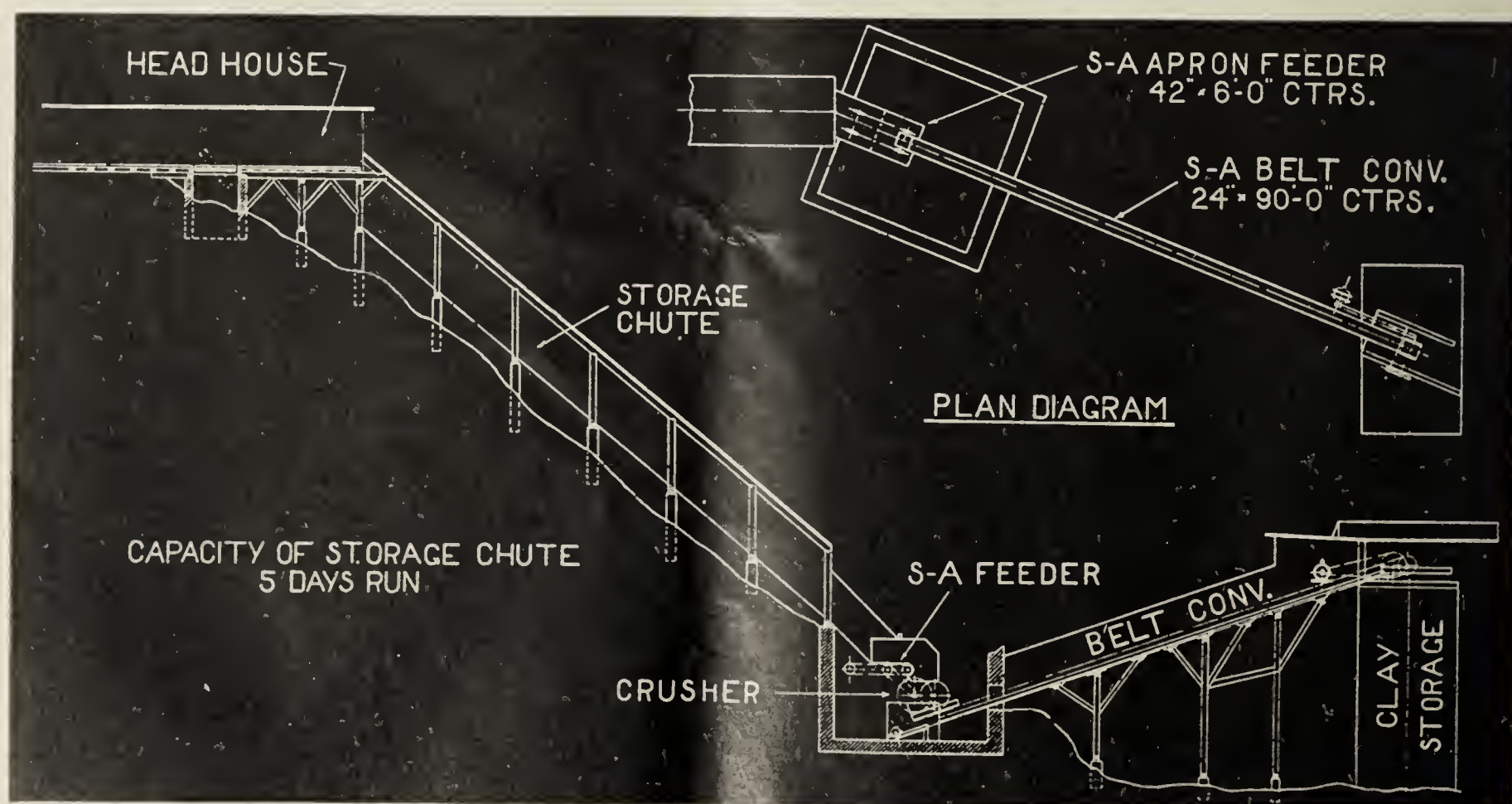
DREW UP OWN SCHEME FOR CLAY HANDLING

Previous to this installation, considerable trouble was experienced in handling the raw clay obtained from the mines of the Fallston Fire Clay Co., which are located on the side of a high hill directly to the rear of the factory. It was advisable to search for some less costly and better operating methods for handling the raw material which formerly was simply allowed to slide down a chute into a storage pile from the mouth of the clay mine above. After much study and consideration of the different schemes that came to mind, L. B. Rainey, who has had considerable experience in the clay business since graduating from the Department of Ceramic Engineering of the Ohio State Uni-

versity, finally conceived a plan which he put into effect with singular success.

The Fallston Fire Clay Co.'s plant is located near Fallston, Pa., which is just across the Beaver River from New Brighton, Pa. A very high quality of beautiful buff and flashed face brick is manufactured from the clay at hand in a well-equipped establishment. The raw material is a fire clay mined from the lower Kittanning vein located in a hill directly to the rear of the plant and at a height of about 90 feet above the level of the factory. The clay is shot down in crude form and loaded onto cars holding approximately 6,000 pounds of material and the cars hauled to the mouth of the mine by mules. At the mouth of the mine is located the scale house. The cars of clay are placed upon the scales and weighed and then the clay proceeds thru the cycle which takes it to the dry pans.

It is between the points where the clay is disposed of after it is weighed in the cars mentioned above and where it is fed into the dry pans, that this article chiefly concerns. Engineers were engaged in a survey made of the property where the clay handling system would be located. Then rough sketches of the scheme were made and these, together with the data available, and a general outline of what was wanted, were submitted to several equipment companies who bid on the apparatus and machinery to be installed.



General Arrangement of the Storage and Conveying Machinery Which Has Been Successfully Operated at the Fallston (Pa.) Fire Clay Co.'s Plant.



Here is a Photographic Side View of the Entire Clay Storage and Conveying Installation.

The machinery was purchased from the firm that submitted the lowest bid and the installation erected by local contractors under the direction of the Fallston Fire Clay Co. The lumber for the equipment was purchased from local dealers and a contract made with local carpenters to do the construction work. Mr. Rainey personally supervised all of this construction work.

CONSTRUCTION OF CLAY CHUTE

The accompanying drawing illustrates the general arrangement of the storage and conveying machinery which has been most successfully operated at the Fallston Fire Clay

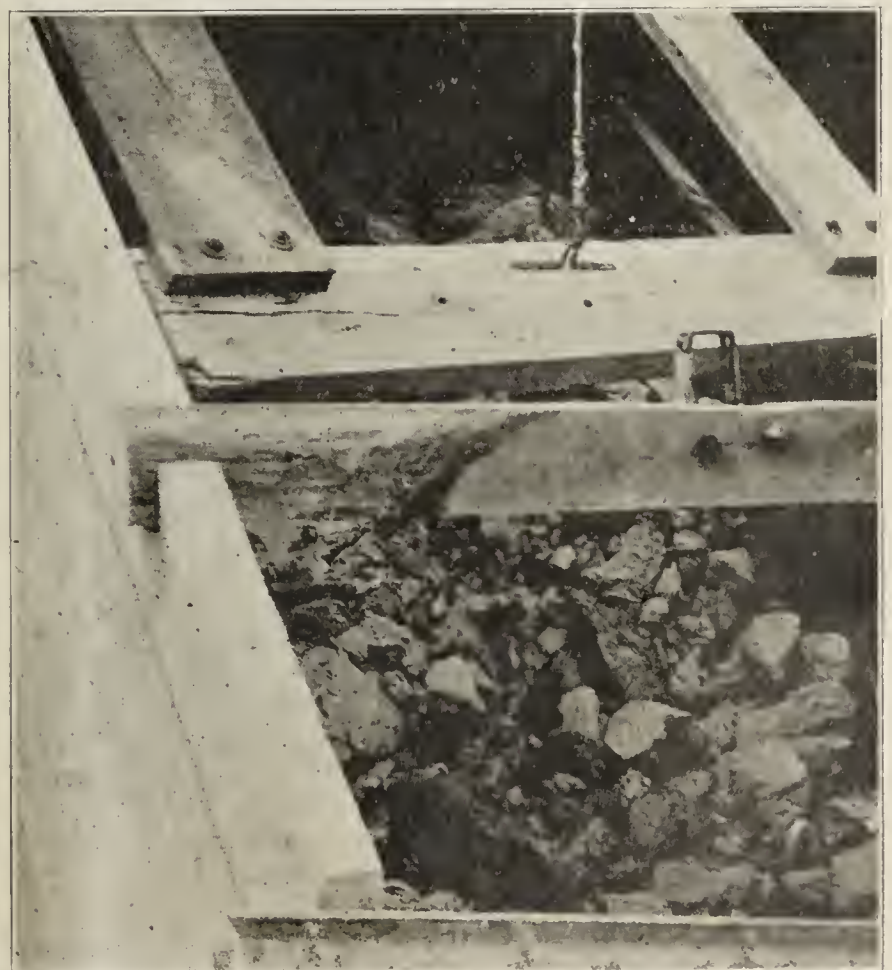
Co.'s establishment. Careful consideration was given the different units in this handling system in order that the operation of the plant would not only be dependable, but economical.

The attending photographs enable one to obtain a clear conception of the entire installation and some of the special features.

After the clay is weighed in the scale house it is placed upon an industrial car dump and the substance discharges into the large storage chute. This chute is constructed of wood and is 10 feet wide by 6 feet high and 95 feet long. The flooring is built of 2x4's of oak on edge and



Inclined Industrial Car Dump With Car in Dumping Position.



Lower End of Chute Where Clay Feeds Onto Apron Feeder.

is lined with $\frac{1}{4}$ -inch steel plates. The sides of the chute are also lined with steel plates to a height of about 3 feet from the floor. A roofing of 2-inch plank covered with tar paper forms the top of the chute. This large chute has a storage capacity for 500 tons of raw clay which is sufficient material to supply the plant with two days' requirements in case of any breakdowns in the clay mines. Owing to the fact that the chute is constructed so as to protect the clay against the weather, the material is always in good shape to proceed in the regular manner thruout the various processes of manufacture. The incline is at an angle of 33 degrees from horizontal and is just right to keep the material steadily flowing into the clay feeder by gravity.

ATTRIBUTE SUCCESS TO APRON FEEDER

Just under the end of the incline, a storage chute, a steel apron pan feeder, 42 inches wide, 6-foot centers, draws the material from the chute and delivers it to a crusher. The use of pan feeders of this type, tho long used in other industries, is new in the clay products field. Where they are applicable for use they seem to be very successful and of great utility. For feeding materials to crushers or on to conveyor belts, these apron feeders serve in a very dependable style. They can be adjusted so as to give a uniform and constant supply of clay, coal or other material and require practically no attention whatever. Mr. Rainey says that the success of the entire clay handling system can be attributed to this installation which feeds a uniform supply of clay to the crusher, at all times and never clogs.

The lump clay is fed to an 18x30-inch single roll crusher by which it is reduced in size to pieces ranging from $1\frac{1}{2}$ to 3 inches in diameter. The crusher delivers the clay on to an inclined belt conveyor. This apparatus is 24 inches wide by 125-foot centers. It operates at an incline in an enclosed housing and delivers the crushed clay into bins located directly over the dry pans. The storage bin has a capacity for

horsepower motor drives the crusher and apron feeder and a $7\frac{1}{2}$ -horsepower motor drives the belt conveyor. No manual labor is required between the man at the weighing scales



This Housed Inclined Conveyor Belt Brings the Crushed Clay to the Bins Which Feed the Dry Pans.

and the men in charge of five dry pans. Between these two points the entire storage, clay handling and feeding system is automatic. The beauty of it is that it works in all kinds of weather and runs with the smoothness and regularity that does the clay plant superintendent's heart good.

Besides being a very successful way of handling the raw clay from the mine to the dry pans, the equipment has released the requirement of four men and one mule. This, altho it is a big saving and an added advantage, is not as important an item as the satisfactory working operation of the system itself.

In supplying this information for publication, Mr. Rainey, of the Fallston Fire Clay Co., is as modest as he is liberal in his cooperation. He states that he does not claim anything original in this installation, but has simply combined some principles already used successfully in other industries and by proper application is using them with good results on the clay storage bin and handling equipment. He feels that if anybody can be benefited by his experience in this matter they are welcome to the data and knowledge contained in this article.

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Plan to Use Less Oil and to Import More

In an address before the American Iron and Steel Institute, New York, on "Industry's Need of Oil," George Otis Smith, director of the U. S. Geological Survey, said, in part, "The ever-increasing demand for gasoline and fuel oil are the outstanding oil needs, so that the question of priority must soon arise. With an estimate of 7,000,000,000 barrels in ground and 1920 consumption closely approaching 500,000,000 barrels, this rapid pace can not long be maintained. Benzol and alcohol from coke ovens promise only enough motor fuel to meet part of the present increase in demand; oil from oil shales will not be labor-cheap like the petroleum now flowing from the wells. Regard for future forces us both to plan to use less oil and to import more."



The Inclined Belt Conveyor, Crusher and Apron Feeder (Encased) Are Shown In This Close-Up View.

150 tons of clay and is located in such a way that the material may be spouted by gravity direct to the dry pans, thereby eliminating additional hauling at this stage. A 35-

ASK RECOGNITION *of* CONSTRUCTION INDUSTRIES

*National Federation of Construction Industries Files
Petition with Interstate Commerce Commission Showing
Essential Character of Construction and Asking Action
that Will Prevent Further Handicaps in Transportation*

REQUESTING the Interstate Commerce Commission to "recognize the essential character of the service being rendered by the construction industry and save the same harmless in this emergency," the National Federation of Construction Industries has filed with the Interstate Commerce Commission a petition in which present and future transportation policies and their effects on the construction industry are discussed.

This petition followed the action on the part of certain railroads asking the Commission to act under Section 402 of the Transportation Act of 1920 to relieve present congestion of the railroads. The Federation's petition as transmitted to the Commission by John C. Frazee, managing director, reads as follows:

PETITION OF CONSTRUCTION INDUSTRY

"The National Federation of Construction Industries, a federation of national and other associations of business and professional men in the construction industry, including *American Face Brick Association*, Associated General Contractors of America, Associated Metal Lath Manufacturers, *Associated Tile Manufacturers*, *Clay Products Association*, *Common Brick Manufacturers' Association of America*, Concrete Mixer Association, *Face Brick Dealers' Association of America*, *Hollow Building Tile Association*, Metal Form Association, National Association Sand and Gravel Producers, National Association of Window Glass Manufacturers, National Association of Roofing Contractors, National Automatic Sprinkler Association, National Boiler and Radiator Manufacturers' Association, National Building Supply Association, National Lime Association, National Lumber Manufacturers' Association, Paint Manufacturers' Association of the United States, Plate Glass Manufacturers of America, Portland Cement Association, Prepared Roofing and Shingle Manufacturers' Association, Southern Pine Association, Wholesale Sash and Door Association, *Vitrified Pipe Manufacturers' Association*, and others, and acting for and with them and generally in behalf of the construction industry of the United States respectfully submits to the Interstate Commerce Commission this petition relative to the emergency, which has been reported by the railroads to exist and to have existed for some weeks past, because of shortage of equipment, congestion of traffic and insufficiency of railroad labor, in their petition above mentioned and now before the commission entitled: 'Petition of Carriers for Orders Under Section 402 of the Transportation Act, 1920, to Relieve Present Car Shortage, etc.'

INADEQUATE CAR SERVICE CURTAILS OUTPUT

"For some time during the immediate past, our plants, quarries and mines have received insufficient car service. More recently, the lack of shipping facilities has caused many of our industries to curtail production and in some cases to shut down, notwithstanding accumulated orders of an urgent nature. Ma-

terial in enormous quantity has long been in transit representing investment charges of such proportion as to have materially affected the credit conditions of the country.

"The ultimate and not far distant effect of this continued inactivity of the construction industry will be financial stringency thruout the country, bankruptcy on the part of some corporations, a serious condition of unemployment, and an increased degree of under production. Excepting agriculture, the construction industry has the largest capital investment, is the largest employer of labor, and is the greatest producer and shipper in the United States. It furnishes, in normal times, nearly one-third of the tonnage of the railroads, which go into a finished product valued in the neighborhood of three billion dollars annually. This product is permanent, taxable wealth. In general, it takes the form of homes or structures which become the tools of useful industry.

"It should be noted that there are today in this country only one hundred homes or apartments for every hundred and twenty-one families. The shortage of houses in certain congested sections partake of the nature of a panic. If the present rate of house construction is not increased, conditions will grow worse rather than better, so that at the end of five years it is estimated that there will be only one hundred houses or apartments for every one hundred and thirty families. The average season of outdoor construction activity is relatively short, being about seven months in duration. Already two months of the current season are gone, and little has been possible of accomplishment in the relief of the housing shortage. If during the remainder of the season the industry could proceed unhampered by car shortage, the outside construction of large numbers of houses could be completed and the interior finishing done during the winter.

FARMERS REQUIRE LARGE AMOUNT OF MATERIAL

"The railroads are dependent upon the construction industry for the material wherewith to maintain their roadbeds. Highways, bridges, agricultural, industrial and other structures are products of this industry. Approximately fifty per cent. of the cement produced in this country, and large quantities of hollow tile, brick, lumber, lime, crushed stone, sand and gravel and other materials supplied by the industry are consumed by the farmers of the United States, mainly in the improvement and enlargement of their productive units.

"The attention of the Commission is respectfully called to the fact that the uses to which construction materials are usually put are essential to the welfare of the general public; and that the degree of essentiality of any material in an emergency such as is now reported to exist should be determined by the consideration of the purpose to which it is put.

"Wherefore, having called the earnest attention of the Commission to the essential character of the construction industry, and having set forth all the matters hereinbefore mentioned,

and now assuring the Commission of its willingness to furnish to the Commission upon request any additional facts which it may have in its possession or may be able to obtain, your petitioner prays that in the effective exercise of the powers and duties cast upon the Commission by law in emergencies such as are reported now to exist, the Commission will recognize the essential character of the service being rendered by the construction industry and save the same harmless in this emergency."

THE PETITION MADE BY THE CARRIERS

The railroads, in their recent petition to the Interstate Commerce Commission, made the following representations:

"Petitioners further represent that altho the railroads of the country are urgently in need of large numbers of additional freight cars and locomotives, there is no immediate opportunity of procuring the same in time to be available during the present emergency, and therefore relief in the movement of those commodities most essential at the present time, namely, food and foodstuffs, perishable products, live stock, coal, newsprint paper, etc., can only be afforded by the current daily use and movement in the most effective manner of the existing equipment. Under present conditions, it will require many months to provide the needed additions to equipment and power, and a much larger capital outlay than the carriers are now able to provide.

"Petitioners further show that there is an enormous volume of traffic of all kinds awaiting movement; there still remains to be moved a considerable portion of the agricultural products of the year 1919, and the new crop of the present year will in certain sections of the country begin in the near future to be offered for shipment. There is general need in almost all sections of the country for the movement of coal, not only for current purposes, but for the accumulation of necessary stores and reserves for the coming winter, especially in movement to lake ports of the coal to be moved by water to upper lake ports, before the end of navigation.

"Petitioners further show, that resulting from conditions developed during the war, there is, and has for some time past, been a general shortage of competent railroad labor, recently made more pronounced because of the unwarranted and illegal

action of large bodies of certain classes of railroad labor who have suspended work, thereby adding to the difficulty of maintaining full operations of the railroads, and contributing to the growing public distress on account of the delay in the movement of the necessary products and raw materials of the commerce of the country.

WISH TO ESTABLISH PRIORITIES

"Under these conditions, which promise to continue for some period of time, the public interest requires, and the carriers are entitled to ask, the exercise of the emergency powers granted to the Commission by the Transportation Act, 1920, aforesaid, so that:

"(1) Necessary food, fuel, and other vital commodities directly affecting the cost of living and the life and comfort of the people, may have preference and priority in movement:

"(2) That empty equipment, particularly box, refrigerator, stock and coal cars needed to move these commodities may have like preference and priority in movement to those sections of the country where they are currently required for loading.

"(3) That for these purposes, and under the orders and direction of the Commission, the carriers may be authorized so far as necessary to postpone or delay the loading and movement of other less important commodities, including to the extent as may from time to time be necessary, the reduction of existing passenger service, and generally to take such other action as the Commission under the exercise of the powers aforesaid may find proper and necessary, to currently meet the conditions aforesaid;

"(4) That to the extent the Commission may find necessary and may by order authorize, the carriers may be relieved from the operation of Federal and state laws and orders recognized as ordinarily effective during normal transportation conditions and governing the service of the carriers in the usual and ordinary conduct of their public service, so that in adopting and carrying out the orders issued by this Commission during the present emergency, the carriers may be protected against penalties and complaints which would otherwise accrue, and be enabled to lawfully adopt and currently apply the necessary emergency measures as the Commission may order to relieve present conditions."



NOTES *from* the NATION'S CAPITOL

THE INTERSTATE COMMERCE COMMISSION has been holding a series of hearings in the matter of the application of carriers in Official, Southern and Western Classification Territory for authority to increase rates. A hearing in the lines of brick, cement, gravel and stone has been scheduled for June 17. It is expected that prominent brick interests will be present or represented at the hearing, and in behalf of the American Face Brick Association and the National Paving Brick Manufacturers' Association, Attorney Francis B. James, will be present to offer evidence to show that brick, today, is bearing more than its proportion of the burden of transportation, and therefore should not be advanced in the general advance rate case. As is generally known, Mr. James and associated attorneys are representing the organizations noted and the Hollow Building Tile Association in a general rate case before the Commission.

In connection with this latter case, a hearing was scheduled for early in June, as announced in *Brick and Clay Record*, but there has been no little change in the program, and this case, I. C. C. Docket No. 10,733, has been postponed until July 7, when the hearings on the general brick case will be inaugurated.

With the adjournment of Congress on June 6, the prospect of any immediate legislation to help the building interests of the country came to an end, and matters are just about where they were some months ago. Unless a special session is called, which now seems unlikely, Congress will not meet again until December 6. Meantime, what building legislation is needed will have to wait—and it is only one of several vital subjects that Sixty-sixth Congress at its second session has neglected.



Senator Calder, New York, Chairman of the Senate Special Committee on Reconstruction and Production, issued a communication to the Interstate Commerce Commission on June 3, urging action to relieve the condition which has arisen in the building industry thruout the country, due to lack of transportation. It was set forth that a number of plants manufacturing building commodities were shutting down owing to their inability to secure transportation for finished products; that the present car supply does not exceed 10 per cent of current needs, and that where a limited supply of cars is available, shipments frequently are impossible on account of

embargoes. Reference was made to the extreme need for construction and housing, and the handicaps which the industry has been laboring under since the time of the war, when building materials were placed at the bottom of the preferential list. In conclusion, the communication says:

"Transportation of materials for the building of homes and of fuel needed to operate the plants manufacturing building materials might, in part, relieve the present critical condition. It is possible that some plan may be evolved to relieve the shortage thru giving transportation preference to fuel and commodities such as lumber, brick, hollow tile, etc., required for housing."

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In a hearing before the House Committee of Ways and Means, May 26, realty interests and building operators in different branches of the industry urged a measure to provide that interest on \$40,000 or less of real estate mortgages held by one person be exempt from the income tax law. It was hoped that such an action would relieve the present "tightness" of mortgage money in different parts of the country. It was set forth that one of the reasons for the present unrest in industrial and other circles was the nation-wide shortage of homes.

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Railroads to Get Immediate Appropriation

Announcement was made recently by the Interstate Commerce Commission of an immediate appropriation of \$125,000,000 of government funds for the use of the railroads to purchase new rolling stock. The money is to be advanced out of the \$300,000,000 revolving fund provided in the transportation act. Of the above total to be advanced for rolling stock, \$75,000,000 will be set aside for the purchase of freight cars, and \$50,000,000 for the acquisition of locomotives.

In each case first allotments will be made to roads making the greatest advances to meet the government loans. In the case of the advance for locomotives applicants will be required to contribute at least fifty per cent. of the costs, but before any passenger locomotives are purchased attention will be given to the need for freight and switching engines by roads which are unable to make 50 per cent. advances.

New Jersey Clay Workers Meet June 25

Professor George H. Brown, director, Department of Ceramics, Rutgers College, New Brunswick, N. J., and secretary of the New Jersey Clay Workers Association and Eastern Section of the American Ceramic Society, has arranged an interesting and varied program for the annual mid-year meeting of the organization to be held at the Country Club, Trenton, N. J., on June 25.

The papers as prepared for presentation include: "Studies of Clay in the Raw State," by A. V. Bleining, Bureau of Standards, Washington, D. C.; "Sagger Mixtures," by Charles F. Geiger, Carborundum Co., Niagara Falls, N. Y.; "Some Recent Accomplishments in Ceramic Drying," by D. H. Applegate, Jr., Proctor & Schwartz, Inc., Philadelphia, Pa.; "The Firing of High Temperature Porcelains in Dressler Kilns," by Conrad Dressler, American Dressler Tunnel Kilns, Inc., New York; A paper on Refractories by R. M. Howe, Mellon Institute, Pittsburgh, Pa., is also scheduled.

There will be morning and afternoon sessions, and a large attendance is anticipated. As usual, a luncheon will be served to the members and guests. The mid-year meeting at Trenton last year was a "record breaker," as chronicled in *Brick and Clay Record* of that time, and with this city the "heart" of the pottery and fine ceramic industry in the eastern district, every effort will be made to have a good showing from the local plants.

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Chemical Exposition Begins September 20

The sixth National Exposition of Chemical Industries will be held at the Grand Central Palace, New York, during the week of September 20. It is expected that a large showing of ceramic industries will be evidenced, as in former years.

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"If there ever was a time in the history of this country when the building of roads on which heavier loads may be hauled in longer stretches at greater speed with reduced power-cost, that time is now."

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"Be industrious and free."—Benjamin Franklin.

The advertisement displays several booklets from The Hollow Building Tile Association. One booklet is titled "Books on Better Building" and lists titles such as "Hollow Tile Farm Buildings", "Hollow Tile Mantels", "Hollow Tile for the Home", and "The Logical Material for Load-Bearing Walls". Another booklet is titled "The Logical Material for Load-Bearing Walls" and features a large illustration of a multi-story building. A speech bubble at the bottom of the advertisement contains the text: "By frost, nor fire, nor flood, nor even time, is well-burned clay destroyed."

SLOGAN APPEARS

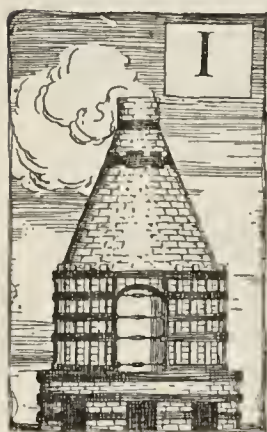
The Credit for Being the First National Association to Use a Slogan That is Applicable to All Well-Burned Clay Products Belongs to the Hollow Building Tile Association, Whose Advertising Now Incorporates the Short-to-the-Point Statement, "By Frost, nor Fire, nor Flood, nor Even Time, is Well-Burned Clay Destroyed." It is Hoped That the Other Clay Associations Will Follow Suit and Use the Tie That Binds All of the Branches of the Clay Industry in Their Advertising and Incidentally Make a Deeper Impression of the Worthiness and Imperishability of Structural Products Made of Burned Clay.

FINE CERAMIC MANUFACTURE



A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products Such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

Kiln Placing in Sanitary Ware Production



INTERESTING and pertinent information regarding methods of production in sanitary ware manufacture has been issued from time to time by the Thomas Maddock's Sons Co., Trenton, N. J., leading manufacturer of sanitary earthenware specialties. This has taken the form of intimate monographs for employes' instruction and guidance, being reproduced in connection with literature designed for distribution thruout the works.

Different subjects have been handled in a non-technical and practical way, the one big thought in mind that he who would read would understand, regardless of the exact phase of work treated or the particular department of operation in which the employe and reader might engage. In a previous issue of *Brick and Clay Record*, data as presented by this company in the manner intimated on the subject of "Kiln Firing" were given, and some recent information on a kindred topic, "Kiln Placing" is equally interesting and illuminating.

This is set forth in substance in the following, covering primary and minor points of operation, and in the same simplified style as presented to the "man on the job." In truth, the characteristic plainness makes a perusal and digest all the more attractive and refreshing.

PLACING THE SAGGERS

The kiln placer puts the piece of ware in the sagger. If it is a tall piece and extends above the top of the sagger, a sagger ring with wads placed around its upper edge is brought in and placed on the top of the sagger around the piece of ware. In some instances no rings are necessary and in others two or more are needed, depending on the height of the piece being fired.

Then another sagger is brought in and placed on top of those already in position, and so on until a stack of saggings and rings with ware enclosed is built to the height of about 14 ft. The last sagger is put on in an inverted position so that the stack has an enclosed top.

Of course, the last saggings, sagger rings and pieces of ware must be carried up ladders to be put in place. If the ware is heavy and the saggings large, the work, accordingly, is heavy and somewhat dangerous. The men carry the ware and saggings on their heads. It must be remembered, also, that the ware is in the green state and must be handled with care, so as not to crack, break, chip or otherwise mar the piece.

On top of each stack, three green saggings usually are placed so that saggings may be fired at the same time as the ware, thus saving fuel and time in firing a kiln of saggings alone.

THE STACKS OR BUNGS

The stacks are known as bungs. The first row bungs is built around the kiln next to the wall between the bags, viz. in the arches of the kiln. Then another row is erected and so on working towards the center of the kiln until the kiln is full. The last bungs to be built are those at the door.

The softness of the clay of the wads makes it possible to build the bungs very rigid; the wads act similar to mortar in the construction of a brick wall. If a bung is built properly, it would require considerable force to push it over.

It should be noted that the bungs are not built closely touching each other, as the heat must have free circulation among them; also, naturally, the bungs nearest the bags receive the hardest fire being closest to the source of heat. Therefore, in placing a kiln care must be exercised to place pieces that require or will stand the hardest fire in the bungs nearest the bags.

Theoretically, no two bungs are fired exactly alike and no two saggings in the same bung get the same firing. Practically, however, the difference is not great in the same kiln.

TRIALS

The saggings placed next to the trial holes of the kiln have a piece broken out of the side opposite the hole. Thus by looking in thru the trial hole it is possible to see the trials in the first row of bungs. In fact, special saggings are used that are not as deep as those employed for the ware.

Trials sometimes are put in other saggings about the kiln and are not observed until the kiln is drawn, their condition serving as a guide for the firing of the kiln the next time. One type of trials commonly used is porcelain rings with one sector covered with Albany Slip and the other with spar. They are drawn from their place by wires thru the trial hole and the degree of fusion noted to judge the heat condition of the kiln. The Albany Slip sector serves as a guide in the early firing and the spar side, having a high point of fusion, is used for the temperature guide.

Another common trial consists of a series of spurs or cones set in a fire clay base. These spurs are prepared especially with definite fusion points. A series of four or more with different fusion points are used together. They are observed without drawing and the bending over, viz: melting down, of the spur indicates the temperature of the kiln.

Other trials, as expansion rings and pyrometers, are used successfully in some plants.

PLACING WARE IN THE SAGGERS

The saggings used in the kilns vary in size and shape according to the ware to be placed. The smaller sized saggings are usually more durable than the larger ones, that is, may be fired over again and again more often.

For small ware, the sagger receives the ware before it is carried into the kiln. Sometimes several pieces are put in the same sagger, but they must not touch each other or the sagger.

In the case of very small pieces, as buttons, escutcheons, etc., they are placed in powdered flint, in which the pieces are embedded and then more flint, and so on until the sagger is full. The placing of such saggars in the kiln is no different than that explained above for the larger ware.

In order to give a piece of ware a much easier fire in the kiln with other ware, it may be put into one sagger and a small sagger inverted over it. This is known as a protected sagger.

KILN CAPACITY

The number of pieces in a kiln depends, of course, on the size and kind of ware, as well as the size of the kiln. The number of closets that may be placed in an 18x18 ft. kiln is 400, approximately. The time required to place an average kiln is 8 hours for a crew of 10 men.

After the kiln is entirely placed, the door is bricked up securely and plastered over, but leaving one brick extending beyond the others so that it may be knocked out, leaving a trial hole thru the door. After the door is bricked up, the clamps of the bars around the kiln are fastened and tightened. The kiln is then ready to fire.



Gas Firing in the Pottery Industry

In view of the very high price of coal at present in the pottery industry of the Stoke consular district, efforts to introduce gas firing are of the deepest moment. For this reason the recent meeting of the refractory materials section of the Ceramic Society at which firing methods were discussed was of peculiar local interest, but it is believed that the report of this meeting appearing in the Staffordshire Sentinel will be of equal interest to pottery manufacturers in the United States:

It is only a decade or so ago that gas firing of pottery was occasionally talked of, more rarely experimented with, and, generally, dismissed as impracticable. Now there are few conservative enough to deny that gas firing is the thing of the future, and scientific and practical men go so far as to assert that eventually everybody will have to come to continuous gas firing.

This, indeed, was the trend of the discussion at Thursday's meeting of the refractory materials section of the Ceramic Society. The discussion was interesting, and it ranged from a scientific dissertation on the application of gas firing to metallurgical purposes (in which great progress has been made) to the firing of brick (in which it is largely and increasingly used) and to the firing of tile and pottery (in which it is employed to a very limited extent). Unfortunately, however, the latter aspect—the gas firing of pottery—was only just touched upon, and the discussion of a paper on the tunnel oven and its development was postponed.

There were few who held to a continuance of the present method of firing direct with solid fuel, and, as the president (Sir William J. Jones) said, in summing up, it was a field day for gas firing with a strong case made out for the advocates of coal firing to answer. In view of the present shortage and high price of coal, the necessity to economize in every direction, and the call for greater output, this vital question of continuous gas firing demands increasingly serious consideration. At the same time, it is a hopeful sign that the subject is constantly being discussed, that a certain amount of experimental work is proceeding, and that continuous gas-fired ovens are being installed at several works in the district, besides the few already in use.

WASTED HEAT—THE CAUSE FOR GAS FIRING

Economically, direct coal firing stands condemned. One speaker showed that approximately three-quarters of the heat evolved from the coal consumed goes up the chimney and is wasted in the air. But another went further and asserted what we believe Dr. Mellor has already shown—that less than 2 per cent. of the heat evolved from the coal is utilized in the actual firing of the ware, and not more than 10 per cent. including the heat taken up by the saggars. The deduction thereto is that 98 per cent. of the coal used in the present type of pottery oven is wasted thru the chim-

ney or in heating the brick of the oven or the saggars in which the ware is fired.

The first problem then is to harness this 98 per cent. of wasted heat and put it to effective use. That, it is contended, is done to a considerable extent by the various types of continuous firing ovens now in use. One argument was that equal economy in actual fuel can be obtained with coal as with gas, so long as the oven is recuperative and of the continuous firing type, but to this the reply was given that economy in coal is not the end of all things, that not merely goods but good goods must be turned out, and that more efficient and more uniform firing is obtained by gas firing as against coal firing. The specific experience on which this contention was based was probably the firing of brick, for the experience with pottery is as yet too limited to speak confidently on the question of efficiency for all classes of pottery firing. Nevertheless, the point is this—that experience in the use of gas furnaces and ovens for various purposes has now gone so far that it is only a matter of adjusting the particular method of continuous gas firing to the special conditions, local and technical, to make it applicable to most, if not all, classes of pottery firing.

The claims on behalf of gas firing may thus be summarized:

- Saving of 50 per cent. or, at any rate, a considerable proportion of fuel.
- Saving of labor.
- Saving of wear and tear.
- Better control of firing.
- Greater efficiency.
- Uniformity of quality in goods fired.
- Elimination of smoke.

It is quite frequently supposed that ordinary coal or town gas will be used for gas firing. Dr. E. W. Smith, of Birmingham, who opened the discussion, quickly dismissed town gas from the category of available gases for firing on the ground of expense. Relative costs of town gas and producer gas on a British thermal unit basis, he gave as 3 for producer gas to 4 for town gas. Moreover, he pointed out, in the making of producer gas, one is not confined to coal or coke alone, or to any particular grade of coal or coke; one can, in fact, use almost any combustible fuel, provided the fuel is of reasonably consistent quality. Dr. Smith, indeed, concluded with the assertion that in view of the fact that all industrial operations of any magnitude only require gas of producer gas quality, producer gas is the gas that will be mainly used.

TUNNEL AND CHAMBER OVENS

Types of continuous-firing ovens were barely touched upon, but for the layman it may be explained that of those now in use or in course of construction in this district there are two kinds—the tunnel type and the chamber type, each fired with producer gas. The name in each case is fairly descriptive.

With the tunnel oven there is provided a long tunnel with the hot zone in the center, and thru it the ware travels at a uniform speed, so that when it emerges at the far end it is not only fired but cooled.

With the chamber oven there are provided a number of chambers—frequently 16 and sometimes more—into which the ware is placed in saggars. A series of the chambers is firing while another series is being filled, and while still another series is cooling. When one series of chambers has finished firing the heat in the ware and in the brick of the oven is not wasted, but is turned into the next series, or partly utilized for preheating the air entering the oven. As one series of chambers has finished firing, the producer gas is turned onto the next, and so on.

To put it directly, if crudely, in the case of the tunnel oven the ware travels; in the case of the chamber oven the gas travels.

For each of these types individual advantages are claimed, but for the chamber type it is contended that the oven never need be out of action, for one chamber or series of chambers can be repaired while the others are in use. The chamber type has been used successfully for brick firing, but the results of its application to pottery firing, we believe, have yet to be ascertained.

There will still be contention on the general principle of coal or gas firing and on one type of oven against another, but we have at last reached the hopeful stage of trying new methods. Anything like complete success in the experimental work now going forward will certainly bring

out a revolution in pottery firing.—*Consul W. F. Doty, Stoke-on-Trent, England.*

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Pottery Transformed to Porcelain Works

Interests of the Connecticut Electric Manufacturing Co., Bridgeport, Conn., have formed a company to be known as the Connecticut Porcelain Co. to operate a porcelain works at Trenton, N. J. The old pottery of the Standard China Works at Prospect and Globe Streets has been acquired for this purpose, and will be given over to the manufacture of electrical porcelain specialties of various kinds, with ultimate capacity to aggregate about 350 barrels a week. This plant has been occupied previously by two companies, and for several years was devoted to the manufacture of door knobs and kindred products. The new owner has been making extensive improvements, including remodeling work to accommodate the new line of manufacture and the installation of needed equipment. A new press room has been constructed, with accommodations for 34 dust presses; new drying equipment has been installed, as well as considerable labor-saving machinery for various departments of the works. The pottery comprises five kilns, 6x12 ft., and which have been remodeled into down-draft type. These kilns are very suitable for the production of porcelain specialties. It is expected to give employment to about 250 persons, a large percentage of which will be girls and women.

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Trenton Potteries Producing Utmost Under Present Handicaps

There is no let-up in pottery operation at Trenton, N. J., and plants of all kinds are producing at the best possible capacity. The freight situation has had its effect in making necessary curtailment in activities at a number of the plants during the past month, but things in this line are improving at a fair pace. The sanitary ware potteries are busy, with exceeding difficulties in making shipments owing to car shortage. As a consequence, many plants have been forced to stock up to a point far beyond desires, awaiting their turns for cars. The general ware plants are active, as are also the potteries devoted to electrical porcelain production. The flint and spar situation is not of the best, and the few companies in this line have been receiving an influx of orders that they cannot hope to fill for some time to come. Labor continues scarce, and a number of plants are handicapped in no small way thru this condition.

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Soon to Rebuild Pottery Plant

The Resolute Pottery Co., Third and Schenck Streets, Trenton, N. J., manufacturer of sanitary earthenware, is planning for the early rebuilding of its plant which was damaged by fire late in May, with loss estimated at close to \$25,000. The fire was caused by the overheating of a kiln, and the blaze was able to obtain good headway before discovered. This plant is one of the important sanitary ware plants in this section.

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Pottery Company to Add \$1,000,000 Plant

The Western Pottery Co. will add a \$1,000,000 tile products plant to the Los Angeles, Calif., industrial field, it has recently been announced. The factory will be erected on a ten-acre tract at San Fernando road and Fletcher drive, now a part of Glendale. Under the supervision of H. H. Carpenter, the ground is now being prepared for the con-

struction of the buildings. It will be several months before the plant, which will be equipped for the manufacture of tile, will be ready for work. Employment will be provided for several hundred men.

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New Porcelain Plant at Middletown

The new company formed at Middletown, Pa., to be known as the Enduro Porcelain Enameling Co., has been incorporated under state laws with a capital of \$60,000. The company is making ready for the operation of a plant on Brown Street, to be used for the production of sanitary porcelain specialties. It is proposed to install equipment to provide for an initial employment of about 200 operatives. Officials of the Wingate Stove Works, a local concern, are interested in the new company.

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Held Exhibition of Students' Work

The School of Industrial Arts, Trenton, N. J., held its annual exhibition of students' work during the past year at the Kelsey Memorial Building, June 1, 2 and 3, with afternoon and evening attendance. The exhibit covered all varieties of industrial work, and was of more than usual interest; it was well attended, attracting not only local citizens, but persons from surrounding sections. During the evenings of the exhibit, the visitors were escorted thru the new shop building of the institution on Quarry Street, about a block distant from the main school, a large portion of which is given over to pottery and ceramic work. As announced in previous issues of *Brick and Clay Record*, an evening course of instruction has been conducted at this department under the direction of Professor George H. Brown, director, Department of Ceramics, Rutgers College, New Brunswick. Among the graduates in the ceramic course are Francis H. Burroughs and William Bedson. The Industrial Arts School is under the direction of Frank Forrest Frederick, and great credit is due him for the progress being made in the work and growth of the institution. A number of prominent ceramic men are active in the management of the school, including John A. Campbell, head of the Trenton Potteries Co., and president of the Board of Trustees of the institution, and Charles Howell Cook president of the Cook Pottery Co.

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Making Repairs While Closed Down

The Brunt Tile & Porcelain Co., which operates a large plant in Chaseland, Ohio, north of Columbus, is partly closed down because of scarcity of fuel and materials. The switchmen's strike has caused so much trouble that it has been impossible to get sufficient coal and other materials. In the meantime some necessary repairs are being made to the plant.

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Porcelain Works Burned to Ground

The Western States Porcelain Works near San Pablo, Cal., burned to the ground in the first week of June. Inadequate hydrant facilities are said to be responsible for the total destruction of the plant. The loss is placed at \$100,000. Every building in the plant with the exception of the power plant crumbled to the ground.

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The Van Pottery Co., Trenton, N. J., has broken ground for a one-story brick addition to its plant on Parker Avenue. The structure will be 50x60 ft., and has been designed to

accommodate two additional kilns. The entire improvement is estimated to cost about \$18,000.

Will Erect New Pottery Plant

The Massillon (Ohio) China Co., recently organized with an authorized capital of \$300,000 will soon start the erection of a large pottery plant near Massillon. Several sites are under consideration.

\$60,000 Porcelain Incorporation

The Carey (Ohio) Porcelain Co. has been incorporated with a capital of \$60,000 to manufacture porcelain of many kinds. The incorporators are C. Follett, J. W. Eckelberry, W. M. Briggs, W. N. Nye and W. P. Beall.

Leases Kilns at Deerfield

Miss Elizabeth Bidgood, of Greenfield, Ind. has leased the pottery buildings and kilns at Deerfield, Mass., owned by Mary Allen, and expects to start operations soon.

To Build New Pottery Plant

S. S. Kresge Co. will build a pottery plant at Mount Clemens, Mich., it is reported, which will be equipped for the making of different products for its chain of stores.

The Poro Products Co., has been organized at Baltimore, Md., to manufacture brick and other burned clay products. The company has a capital of \$150,000, and is headed by Newbold and J. Warren Burgres, and John Henry, Jr. Officers have been established at 315 American Building.

The Hartford Faience Co., Hartford, Conn., manufacturer of fine ceramics, has increased its capital from \$50,000 to \$150,000 for general expansion.

The Associated Press reports from Chicago, on May 25, "A growing tendency toward thrift, a general revision downward of prices of all commodities except food and improvement in labor situation are three encouraging factors in the report of the Seventh Federal Reserve District."

CURRENT PRICES of COMMON BUILDING BRICK
from SEVENTY-SEVEN CITIES

INASMUCH AS considerable interest has been manifested recently in common brick prices thruout the country, it has been deemed wise to make a compilation of current quotations for the benefit of our readers. The prices which follow are reported as *delivered on the job*. They are, therefore, in the very nature of the case, higher than the plant price. This should be taken into consideration in examining them.

with conditions as they exist in the towns enumerated, and furthermore, if you have any information that would tend to prove these prices to be incorrect the editors of *Brick and Clay Record* will be very glad to hear from you. These are, however, quotations which are being given at the present time by agencies selling brick in the towns mentioned.

The foot notes are explained at the end of the following tabulation:

COMMON BRICK		Per M		
Boston, Mass.		\$29.25	Norfolk, Va.	24.00
Portland, Me.		28.00	Richmond, Va.	25.00
Providence, R. I.		35.00	Huntington, W. Va.	24.00
Hartford, Conn.		30.00*	Fairmont, W. Va.	33.00
New Haven, Conn.		35.00	Wheeling, W. Va.	30.00
New York City		30.75	Atlanta, Ga.	25.00
Albany, N. Y.		25.00	Miami, Fla.	42.50
Binghamton, N. Y.		30.00	Tampa, Fla.	30.00
Elmira, N. Y.		35.00	Frankfort, Ky.	24.00
Rochester, N. Y.		24.00	Louisville, Ky.	20.00
Buffalo, N. Y.		30.00	Lexington, Ky.	29.50
Jamestown, N. Y.		33.00	Memphis, Tenn.	30.00
Allentown, Pa.		22.00	Nashville, Tenn.	19.00
Philadelphia, Pa.		25.00	Birmingham, Ala.	25.00
Pittsburgh, Pa.		20.00	New Orleans, La.	24.50
Reading, Pa.		23.00	El Paso, Tex.	21.00
Scranton, Pa.		28.00	Houston, Tex.	25.00*
Newark, N. J.		32.00	Dallas, Tex.	25.00
Paterson, N. J.		30.00	Topeka, Kans.	25.00
Trenton, N. J.		27.00	Little Rock, Ark.	18.00
Wilmington, Del.		25.00	Oklahoma City, Okla.	27.50
Washington, D. C.		24.50	Cincinnati, Ohio	23.00
Baltimore, Md.		25.50	Cleveland, Ohio	25.00
			Columbus, Ohio	30.00
			Toledo, Ohio	32.50
			Evansville, Ind.	16.00
			Fort Wayne, Ind.	21.00
			Indianapolis, Ind.	22.00
			South Bend, Ind.	23.00
			Terra Haute, Ind.	19.00
			Bloomington, Ill.	22.00
			Chicago, Ill.	16.00
			Moline, Ill.	24.00
			Green Bay, Wis.	20.00
			Milwaukee, Wis.	20.00
			Grand Rapids, Mich.	22.00
			Minneapolis, Minn.	24.00
			St. Paul, Minn.	24.00
			Davenport, Iowa	25.00
			Des Moines, Iowa	34.50
			Sioux City, Iowa	21.00
			St. Louis, Mo.	20.00
			Lincoln, Neb.	21.00
			Denver, Colo.	19.50
			Butte, Mont.	16.00
			Los Angeles, Cal.	13.50
			San Diego, Cal.	18.50‡
			San Francisco, Cal.	17.50
			Portland, Ore.	23.50
			Seattle, Wash.	20.00
			Winnipeg, Man.	20.00
			Toronto, Ont.	18.00
			Halifax, N. S.	19.50
			Quebec, Que.	18.50

*Hartford, sold by mfrs. only; minimum price, Houston, mfrs. price.
‡Carlot rate, San Diego.

TO THE MANUFACTURERS OF POTTERY

Whether you have a new plant in mind or just going to make a change in your present drying equipment—it will prove to your advantage to consult our engineers on Complete Automatic Stove Rooms and Mangles, including Conditioning Equipment, Continuous Automatic Sagger Dryers and Special Equipment for drying pottery, electric porcelain, abrasive products and general ware.

The Proctor Stove Rooms:—

Are simple and substantial in construction.

Are individually designed.

Are furnished complete for operation.

Deliver highest quality of finished product.

Give greatest uniformity in the drying.

Reduce the cost of fuel and labor.

Cut the drying time one-half.

Tell us of your drying requirements. Our engineers will carefully take into consideration every condition in detail, so that you will receive the complete information on just the stove room you need.

CERAMIC EQUIPMENT CO.
TRENTON, NEW JERSEY

*Subsidiary of Proctor & Schwartz
Philadelphia, Pa.*



“Proctor”
DRYERS

for

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TO THE MANUFACTURERS OF BRICK

If you are looking for the "Last Word" in dryers, a system that will harness up those vanishing dollars (the cost of fuel, time and labor), and make them work for you, investigate the PROCTOR.

1. Operates economically—using live or exhaust steam.
2. Recirculates and distributes the heated air fully.
3. Covers very little floor space.
4. Does not radiate heat.
5. Reduces labor to a minimum.
6. Cuts the drying time one-half and dries the ware as it SHOULD be dried, producing the highest quality product with practically no waste or cracked ware.

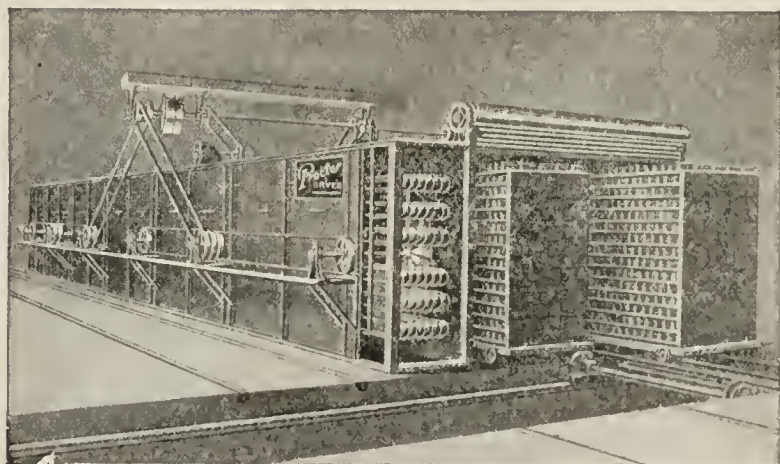
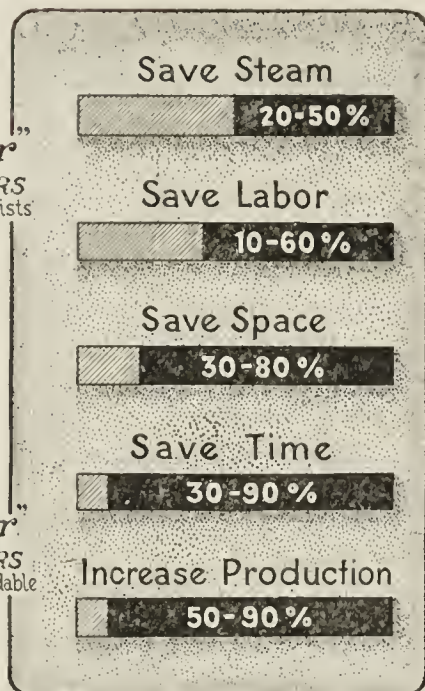
Let us show you in detail what a Proctor Dryer in your Drying Department would mean. Write today.

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PHILADELPHIA, PA.

*Formerly Phil. Textile Machinery Co.
Philadelphia, Pa.*

"Proctor"
DRYERS
Built by Specialists

"Proctor"
DRYERS
Fireproof-Dependable



Y PRODUCTS, POT- RY and GENERAL WARE

The BUILDING SITUATION *in the* EAST

THE FREIGHT TIE-UP, car shortage and building material scarcity are showing their effect in eastern centers, and the result is a noticeable decrease in actual construction operations. Just when things should be "booming" and when they would be, as so freely prophesied in months past by leaders in the industry, a severe set-back has come. The prospects are now for sub-normal activities for weeks to come, and the year is likely to close with totals far below those estimated, as based on the intensity of building operations in the early months of 1920.

Altho freight conditions are becoming better, it is a long call from regular operation of lines, and scarcity in building materials to a serious point still prevails. There is hardly a building material dealer who has not complaints to offer as to the almost disregard of the importance of construction commodities by the freight carriers. "Any old time is good enough" is even more than a slogan—its an actuality, and the sum result is shown by the decreased interest of builders. The uncertainty in the situation, inability to obtain prices except at time of delivery, and date of delivery, itself so problematical, have made the purchaser and prospective purchaser think twice, and the consequence is that orders are falling off.

New York and Northern New Jersey have been feeling "the pinch" possibly more than other districts. Building totals hereabouts have "hit the toboggan" and grave scarcity prevails in certain burned clay products and other materials. Central and Southern New Jersey are a little better off, and things are moving here under more encouraging aspects. Philadelphia, Pa., and Wilmington, Del., may be said, also, to enjoy more improved conditions, and the same holds true at Baltimore and Washington; the yards at Baltimore were pretty well stocked before the freight jam ensued, and current operations have been able to proceed without any exceptional delays.

There is considerable projected work in sight thruout these districts, so if real, positive relief comes, some interesting developments are expected.

WHAT THE CITIES ARE DOING—NEW YORK

Even with severe material scarcity, the metropolis is trying to maintain its stride in construction operations—and this, in New York, means something. The famine has had no effect on projected plans, and millions of dollars worth of work is in sight. Engineers and architects are very busy, and a large volume of construction will be pushed forward as soon as it is possible. The call for building commodities is keen and dealers are at a loss to know just how to handle certain attractive inquiries.

Even the Woolworth Building is too small for New York, and work is under way for the closing of the large U-shaped court as far as the fifth floor to provide additional space. This court divides the west side of the structure into two tall wings, and these wings will be brought together to make new offices. This operation is of more than passing interest, for if this fifty-four story office building finds conditions "pressing," how about the entire city in office, housing and general loft structures? There has never been such a demand for quarters of all kinds.

It is estimated that construction work will reach a round total of about \$1,050,000,000 in the New York area in 1920, provided that the next few weeks makes possible building materials in necessary quantity. This figure is based on the work for this district up to April 1, which aggregated about

\$182,568,000 in contracts, and taking this period as 17.5 per cent. of the year's work, as has been the case during the past ten years. This shows, conclusively, the big opportunities for the manufacturer and dealer in construction commodities, and the apparent willingness of building interests to proceed if assurance can be given that stable conditions will prevail.

The New York State Industrial Commission has compiled figures for construction work thruout the state for the early months of the year, and taking April as a typical month of what has been going on, it is shown that the estimated value of operations in this month was \$46,946,000, an increase of 39 per cent. over the month of March, and an advance of 142 per cent. over the corresponding month of 1919. This is an encouraging indication of forthcoming activities.

NEW JERSEY

The 1919-1920 session of the State Legislature terminated on June 2, and just prior to adjournment a concurrent resolution was approved both by the Senate and the House appealing to the Interstate Commerce Commission to give priority shipment to foodstuffs and building materials in course of transportation. The resolution set forth in detail the necessity for a continuance of construction operations, both as a means of providing housing accommodations and in the building of roads. It is at least an effort in the right direction and construction interests quite naturally hope it may bring the desired effect.

The adjournment of the Legislature brought to an end any possibility of housing legislation before the fall term, which commences on September 8. Five bills as approved by the House have been before the Senate for some weeks past, these being designed to relieve the present situation to the best possible extent. Chief among the series of bills was a measure authorizing municipalities in the state to issue bonds and construct houses for sale or lease with the funds derived from such source. Members of the Senate, however, could not agree that the proposed laws were of the best—and so the matter stands.

Construction work is going forward at a fair pace in various New Jersey cities, with the Southern section of the state rather taking the lead in actual operations. At Trenton there is a good volume of industrial work under way, and the indications are that more is coming; manufacturers and dealers in this district are busy. At Atlantic City, building is rather on the "boom," contracts have just been let for the erection of a new hotel to be known as the Ritz-Carlton, located in the Chelsea district. This structure will cost about \$4,000,000 and will require large quantities of hollow tile, face brick and other burned clay materials.

Construction work at Newark, N. J., is slackening a little, owing to the difficulty in securing building materials. The month of May has been a trying one to construction interests in this section, and the building totals show it. The aggregate for the period was \$1,165,302, which was less than in 1919, which totaled \$1,327,717. It is hoped that the next few weeks will bring things back to a larger status, for the city has been going ahead in a big way, producing record breaking months, and no one in local building circles wants to see sustained recessions.

PHILADELPHIA

Building operations are not reaching any stimulating point

in the Philadelphia district. Local builders interviewed on the subject hold that the present prices of material and labor are responsible for the slow-down, and that work is decreasing is shown by the reduced volume of permits issued by the building department. It is set forth, however, that conditions as regards prices are likely to remain just about where they are for another year. The new scale of wages for labor are operative until next May, and there is certainly no signs of any reduction in material prices. To bring this latter about will require increased production, and present indications are not very favorable in this direction. And so the matter stands, awaiting a decision of prospective builders as to whether or not work should proceed.

The housing shortage continues at Philadelphia, with little or no effort on the part of operators to improve the situation. That something must be done before the winter season is evident, but just how soon action will come is now uncertain. Realty interests, which have been doing a flourishing business, report decreased operations, due, it is said, to the high valuation placed on existing property; where \$500 or \$1,000 would buy an equity in a home a few years ago, more than twice this amount is now necessary, and with the tightness of mortgage money, purchasers are growing fewer and fewer. To assist local housing conditions, the Board of Survey of the Navy Department is offering a number of portable houses for sale at the Philadelphia Navy Yard. The dwellings are located at various points, with the majority at the Naval Radio Station, Tuckerton, N. J.

WILMINGTON

Construction work is taking on a more intensive and encouraging aspect at Wilmington, Del., particularly in the matter of housing work, and during the past few weeks some interesting operations have developed in this line. One rather important enterprise of this character includes the erection of twelve brick dwellings on Madison Street, to be carried out by Charles P. Witsil at a cost of about \$75,000. There is little industrial work hereabouts at the present time, and with the reduction of operations in certain industries, as leather manufacture, etc., it does not seem likely that there will be any great amount of factory construction for some time to come. Local dealers are looking forward to some road work during the present season, and which is expected to bring a heavy call for certain materials.

BALTIMORE

Expansion in construction work continues at Baltimore, Md. In the matter of large industrial operations, the city is taking a leading position among other municipalities in the east. Every industrial district, such as Fairfield, Orangeville, Westport, and so on, is busy with new buildings. At the first mentioned place, a new shipyard is in course of construction; at Orangeville, the Columbia Graphophone Co. has commenced the erection of its proposed new plant to cost several million dollars, while iron and steel industries are "booming" at Westport. With this volume of construction work, it can be readily appreciated that dealers and others in the industry are very busy, and indications tend towards a continuance of the progressive program for many months to come. There is a little sag in housing operations locally, and efforts are being made to bring about an increase of work of this nature.

To show the industrial importance of Baltimore, it is interesting to note that during the past year, terminating May 31, the resources of the city in this line have been increased more than \$72,000,000 for new plant investments. The Industrial Bureau of the local Board of Trade is responsible in a large measure for this expansion, and it is stated that no other city in the country shows such a growth industrially during the past twelve months. In this time, about 100 new industries have been established, representing a plant invest-

ment of over \$34,600,000, and giving employment to about 21,500 workers; in addition, there have been no less than 134 expansions of existing firms, occasioning an outlay of about \$38,000,000, and requiring a total of over 18,000 additional employes. This is "some" record, and every effort will be made to produce equally interesting totals for the ensuing year.

WASHINGTON

Washington, D. C., is only a short distance from Baltimore, and the activity along industrial lines in this latter city, is reflected in Washington circles in the matter of house construction. Also, there is considerable work going on in the business district of the city, covering office building and store remodeling and improvement. Both the northeast and northwest sections of the community are giving attention to housing work, and good sized quantities of brick are being utilized for different operations.

That Washington is active in construction work to an appreciable extent is shown by the records of the local building department for the month of May. In this period, the plans filed for permits totaled \$1,199,045 in valuation; of this amount, dwelling construction approximated about \$500,000, or almost half of the total. Plans for no less than 122 garages were filed in this time, with estimated valuation placed at \$397,800.

Other cities of the country confronted with high rental conditions might well take pattern from Washington, which has been solving numerous problems and difficulties in this direction thru a Federal Rent Commission. This body has been operating for a little over two months, being created by a special act of Congress, and during this time has handled no less than 500 cases of disputes between landlord and tenant. About one-third of these has concerned rent controversies, and numerous reductions of rentals have been made effective; other matters have dealt with property possession, and the like, landlords and tenants seeking occupancy of premises, etc.



Wanamaker Refers to Brick in Ad

We are indebted to F. G. Wilson, of F. G. Wilson & Co., Philadelphia, for sending us the accompanying item. It was

The Houses of Philadelphia in Its Beginning

and until a few years back, were almost all built of bricks. The city was cited everywhere as of straight streets and red brick houses with green window shutters and white steps.

Brickmaking was mainly carried on, a hundred years ago, in the southern part of the County of Philadelphia, known as "The Neck," famous for the extent and excellence of its clay banks, out of which came the fine pressed bricks for the fronts of houses, the stretchers for the side walls and the commons for the inside plastered walls.

The durability of the bricks is still in evidence. In the British Museum may be seen the bricks of Nineveh and Babylon. Travelers will recall the bricks in the Baths of Caracalla, at Rome, laid in the early part of the third century, A. D., which have stood the effects of time better than has the stone of the Coliseum or the marble of the Forum, added in the days of Trajan, though the former have been written off as only sun-dried, not baked or burned.

Good old bricks they were, that our fathers made to help our city grow with little expense for building material, to give homes to our unwealthy first beginners, and to prepare for the more prosperous days to which we have grown and in which we are still growing.

[Signed] *John Wanamaker*

JUNE 2 1920

thru his thoughtfulness that we received the clipping from a Philadelphia daily newspaper which is reproduced herewith that contains an editorial from the pen of the famous Quaker City merchant, John Wanamaker, and which concerns brick. Mr. Wilson writes:

"Herewith please find clipping taken from page of advertising of John Wanamaker, Philadelphia. In Mr. Wanamaker's daily ads, he includes a personal editorial similar to the one enclosed. This clipping, you will note, has reference to brick, and the part brick played in the early period of this city. In fact, the writer is under the impression, altho he does not make it as a statement, that one of the first jobs Mr. Wanamaker had was off-bearing brick in one of the factories in what, as he states, is known as 'The Neck.'

"From the fact that Mr. Wanamaker is one of the largest retail merchants in this country, and also as he is a large advertiser, and as his editorial clipped from today's (June 3) paper dwells on the brick industry, we thought you might be interested in the article, and might want to add it to your next edition."



The Brick and Burned Clay Markets

There is little encouragement to be had in the statement that there is a good call for building materials of all kinds in the different eastern centers, for if the commodities are not available, the demand might as well be neglected. At the same time, there is certain encouragement to be had in the fact that builders are anxious to go ahead, and it is hoped that this situation will be prevalent in four to six weeks hence, when it is estimated that sizeable stocks will be on hand.

While freight conditions are said to be improving, it is really hard to believe it in some quarters. At best, it is very slow speed, and the result is that thousands of dollars have been lost in possible transactions of benefit to the burned clay and other branches of the building industry. Motor trucks are being pressed to service in different sections, and principally in New York and Northern New Jersey, traveling to embargo points to secure such supplies as are laying in the yards. Plainfield, N. J., has been such a point, and considerable prominence has been brought this locality, and considerable use of roads, also.

The common brick market in New York is not very active, and the past fortnight has been without any important feature. The price holds at \$25 a thousand wholesale, alongside dock, and there are not as many takers as there might be. The consequence is that with an average of close to 20 barge loads arriving each week from the Hudson River yards, there is a large amount of available material. Prices, however, will not be affected in any way, at least, this is the general supposition of those well informed in local brick circles; this figure must be secured to show a fair margin to the producer. Local dealers have made a slight increase in price for first zone deliveries, this advancing to \$30.75.

Close to \$30 brick is prevailing in Northern New York districts, altho this figure is lowered slightly in certain sections. At Elmira, dealers are asking \$35 a thousand for good hard common, delivered on the job; at Binghamton, the price is \$28, while at Buffalo, the figure touches \$30. Rochester is enjoying a lower price, with present quotations around \$23, while dealers at Syracuse are selling the material at \$25.

There is a fair call for common brick in the different New Jersey cities, with prices holding firm at present levels. At Newark, the dealers are quoting \$32 a thousand, with both Hudson River brick and Hackensack brick in prominence in the local market. Paterson is selling Hackensack brick for around \$30. At Trenton, N. J., the price is around \$27 a thousand, delivered, for first grade material. Philadelphia,

Pa., yards are maintaining a figure of \$25, and like quotations are prevailing at Wilmington, Del. Baltimore, Md., holds to the same figure for local production, while Washington, D. C., producers are asking about \$23.

Face brick is in fair call but securable in lessened stock and varieties in the various eastern cities. The common price range is from \$35 to \$55 a thousand, but just when one can get the material is a matter of guesswork. New England districts have come quite strong in the face brick market, and a recent shipment from Pennsylvania to this section embraced a full trainload of forty cars. The New York market is not calling quite so actively for the material as it might, due to the shortage of other supplies needed in construction.

Fire brick is coming forward with big strides. This material is in prominent call in a number of eastern cities, particularly New York, Northern New Jersey and in the vicinity of Baltimore, Md. At Philadelphia, Pa., there are a number of primary operations in stack and furnace construction, requiring sizeable quantities of high grade fire brick. The price range holds at \$70 and upwards for No. 1 standard. At Newark, N. J., a \$63 quotation has recently been prevailing, but this has now inclined to the \$70 level. At New York, the price is about \$75 a thousand, delivered.



With the Brick and Burned Clay Producers

The Hudson River district of New York shows an increased number of brick yards falling into line as the weeks go by, inaugurating production at a point about the best that labor will allow. Brickyard labor was at a premium thruout the past season in this section, and like conditions are again prevailing. Good men, or even "poor" help is very scarce, altho there has been an average advance of about 25 per cent. in wage scales, and covering practically all departments of operation. From present indications, the 1920 production will be affected very materially by this condition, for altho manufacturers are not so keen to go ahead at maximum speed with existing conditions in the New York market, the summer months are likely to bring a decided change in conditions, and yards must be prepared. With decreased production during the present season, a price advance in the early fall months would not be unexpected. It seems destined to come.

The Independent Brick Co., Trenton, N. J., is maintaining active production at its various plants, and a good call is ensuing for the material. The company manufactures a fine grade of brick, with specialties including standard common brick, face brick, sidewalk brick and sewer brick. Yards are operated at Trenton, Bordentown, Fieldsboro and Kinkora. Arrangements are being perfected for a trip of inspection thru the yards by members of the Brick Manufacturers Association of Eastern Pennsylvania, Southern New Jersey and Delaware, and this will likely take place before the close of the month. The company is a member of this organization, and the tour will be made under the guidance of C. T. Dunham, secretary of the company.

Donahue & Nolan, Trenton, N. J., common brick manufacturers, have opened up their producing season at the yards on Calhoun Street. This company is a prominent factor in the local industry and has furnished material for different important operations. The spirit of the organization is shown in the presentation of a quantity of brick to be used for the erection of an addition to the club house at the Kiddies' Camp, Park Island. This is a local resort for the children of Trenton, and a number of local ceramic men are interested in the welfare of the establishment. Other materials have been donated by Trenton industries.

A new company to operate as a dealer in common brick and kindred burned clay products has been organized at

Brooklyn, N. Y., under the name of Rosenblum Brothers & Brown, with capital of \$10,000. Those interested in the company include P. and J. Rosenblum, and B. Brown, 421 Bushwick Avenue, Brooklyn.

The committee in charge of the affairs of the John B. Rose Co. and the Rose Brick Co., Roseton, N. Y., has tendered a report covering the proposed plan of re-organization, and suggests a modification of the arrangements as initially projected. It is set forth that there is no need for the organization of a new company, inasmuch as the committee has sold at an advantageous price the business and assets of the John B. Rose Co. acquired by it. The funds now in the hands of the committee are available for distribution to participating creditors of the company, after a deduction for expenses, etc. The distribution will be arranged on a pro rata basis in accordance with the claims filed. In lieu of a series of notes as proposed to be issued, participating creditors will receive 7 per cent. cumulative preferred stock, without voting power, in an amount equal to their claims against the company known as the Rose Brick Co.

Washington, D. C., interests have been instrumental in organizing a new brick manufacturing company, to be known as the National Shale Brick Co. The company will operate with a capital of \$250,000, and it is proposed to build a plant near Martinsburg, W. Va. A site has been secured for the works, which will be equipped for the production of common brick, as well as tile, sewer pipe and other burned clay building products. Officers of the new company are: F. Vernon Aler, Martinsburg, president; Tracy L. Jeffords, Washington, vice-president; Charles L. McGee, Washington, secretary. Others interested include James H. Dawes, J. Harry Cunningham and James H. Dyson.

The Raritan Hollow Tile Corporation, Woodbridge, N. J., has been organized with a capital of \$100,000 to operate a plant in this section. It is understood that the company will take over an existing plant, devoting production to hollow building tile and other associated burned clay specialties. The organization is headed by A. Dudley Watson. M. A. Harkins is registered agent for the company at Woodbridge.

The Trent Tile Co., Trenton, N. J., specializing in the production of floor and wall tile, suffered a slight fire loss on May 30 at its plant on Klagg Avenue. The kiln shed was damaged, due to the overheating of one of the kilns, and a quantity of stock was also destroyed. This plant is operated by Thomas H. Thropp; James Silvers is superintendent.

The Big Savage Fire Brick Co., Zihlman, Md., is planning for enlargements at its plant to increase the present capacity.



A Well Stocked New Jersey Yard

When it comes to burned clay building specialties of all kinds there is hardly a yard in New Jersey that can present a bigger stock these days than that of the J. D. Loizeaux Lumber Co., Plainfield, N. J. This company anticipated present day conditions many months ago, with the result that it purchased heavily and stocked up. Today, other dealers for miles around are seeking aid from this source, so not only is a regular retail business being conducted, but what might be said, a wholesale business as well. It only goes to show what a little forethought will do in a business. The accompanying photograph shows a portion of the hollow tile now on hand at the yard, with the head of the organization, J. D. Loizeaux, talking to two interested spectators who wonder how "he has done it." Equally large stocks of common brick, fire clay, drain tile, sewer pipe and other burned clay commodities are available in other sections of the yard, in addition to large quantities of lumber and other building supplies. The company carries a stock of close to \$500,000 valuation; it operates a number of motor trucks and trailers,

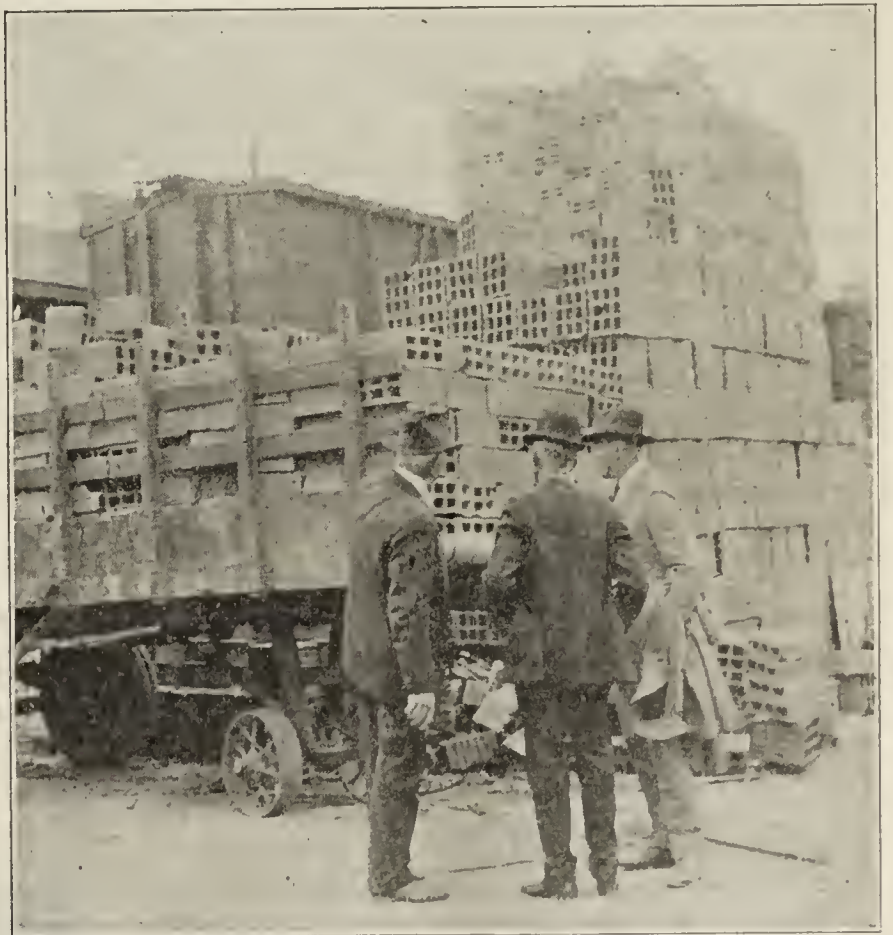
and during the recent crisis in material shortage has made deliveries by this means for distances as far as 50 miles from the yard.



Better Designs for British Pottery

The British Pottery Manufacturers' Federation recently devoted a special meeting to the subject of industrial art—a distinct and, perhaps, unprecedented acknowledgment on the part of manufacturers of the importance of design to their industry. With the demand for wares so strong and continuous as it is, and with buyers not too critical, so long as they can secure goods, manufacturers might almost be pardoned a neglect of the art side of the industry. As a matter of fact, however, plenty of new designs and better designs than have been seen for decades are being produced, for manufacturers are realizing that it costs little or no more—in fact, sometimes less—to make a thing beautiful instead of ugly; that it is the shape and decoration that first attract the intending purchaser, and that good design in combination with admitted technical perfection is calculated to justify the high prices that are inevitable with the present cost of production.

The Manufacturers' Federation heard addresses on the aims of the British Institute of Industrial Art and referred to its arts and designs committee the question of participating in the forthcoming or future exhibitions of the institute. The British Institute, except that its operations apply to all craft industries, is, in fact, following the excellent example of the Ceramic Art Society, whose two adjudicated exhibitions have undoubtedly had an improving influence on pottery design. The example of the Ceramic Art Society has also been followed in Sweden, where competitions have been organized and the makers of the wares accepted permitted to stamp their



Doesn't This Large Quantity of Stock Which Is Readily Available for the Construction Job, Look Good to You?

goods with a statement that they have been so accepted, thus giving them a hall mark of good design.

The Manufacturers' Federation also gave consideration to the reorganization of the Potteries Art School, which is now being carried out by the new art director, who, with the co-operation of the employers, is determined to make more intimate the relations between the factories and schools.—*London Times Trade Supplement.*

The SUPERINTENDENT

Helpful Hints for Practical Men
Whose Problem is Maximum
Production With Minimum Cost

Standard Sizes for Shafting

The desirability of reducing the number of sizes of shafting and in consequence the number of parts of power-transmission equipment that must be carried in stock has long been recognized. It remained for the conditions of the war, however, to bring about definite action in this regard, from the standpoint of the conservation of materials. The activities of the Committee of The American Society of Mechanical Engineers on War Industries Readjustment brought to light the fact that an immense amount of steel is continuously tied up in manufacturers' and dealers' stocks of shafting and that a corresponding amount of cast iron is also held in stock in the form of hangers, bearings, couplings, collars, bushings, pulleys, etc. At the suggestion of the chairman of the Committee on War Industries Readjustment, therefore, a committee was formed to investigate the subject of the standardization of shafting sizes. The personnel of this committee is: Cloyd M. Chapman, chairman, Hunter Morrison, Russell E. Nelles, George N. Van Derhoef, Louis W. Williams.

This Committee was confronted with two distinct but closely related problems, viz., the standardization of the diameters of shafting used for the transmission of power, such as lineshafts, countershafts, etc., and the standardization of the diameters of shafting used by machinery manufacturers in making up their product. The first of these problems seemed to be the simpler of the two. While a large number of sizes of transmission shafting are now listed and stocked, it was believed that a comparatively few of these are in extensive general use. Accordingly, a letter was sent to 36 of the largest manufacturers and dealers in transmission shafting asking for statistics on the consumption of each size of shafting handled by them. Some 20 of the largest concerns in the industry furnished complete statements of their sales over periods of time chosen by themselves. These data were reduced by the committee to a uniform basis of percentages. The amount of each size sold was expressed as a percentage of the total sales, both on a weight basis and on a lineal-foot basis.

From these data, plotted in the form of a diagram, it was very evident which of the sizes were popular and generally used and which were more rarely called for. A tentative list of 12 sizes was prepared from this diagram and sent to forty-six other dealers in transmission shafting and shafting supplies from whom twenty replies were received.

In the letters to these firms, the committee expressed the opinion that the custom of using shafting $\frac{1}{8}$ in. under the unit sizes is so firmly and so nearly universally established in this country, that it would be unwise to attempt to adopt sizes in even inches and fractions as standard. It was pointed out, also, that certain sizes stand out preëminently as "popular sizes" and that others are sold in relatively small quantities. It seemed very feasible to select a series of standard sizes which would meet the popular demand and give a sufficient selection of sizes for general purposes and at the same time reduce the number of sizes now listed by the trade from 50 or 60 down to 12 or 15.

The response to these letters was hearty and practically unanimous in opinion. The transmission-shafting users and dealers, almost to the last one, approved the plan of standardization and the sizes suggested were very generally approved except that the diameters $1\frac{1}{8}$ in. and $2\frac{3}{8}$ in. were in many cases requested to be included. After due consideration the committee decided to include these two sizes in the original list, making the 14 sizes now adopted as standard.

The second problem was a more intricate one. The number of sizes now produced by the rolling mills for use in machinery is very large. Almost every sixty-fourth of every inch up to three inches is drawn. This means excessive equipment at the mills and large stocks in the warehouses. If a reasonable number of these sizes could be eliminated or classed as "Specials" and a comparatively few sizes selected as standard or stock sizes, a great saving would thus be effected and a valuable service performed.

In order to get the opinions of leading consumers of shafting for machinery purposes, the committee decided to lay the plan before some 225 large consumers of this ma-

Reprinted from "Mechanical Engineering," April, 1920.

A MACHINE BRICK CLEANER

Inquiries have been received by "Brick and Clay Record" from manufacturers from time to time who had undoubtedly been asked by customers to give some information about a machine that would clean brick. We have recently come across such a machine known as the "Hafa-Hors" Brick Cleaner, which is manufactured by the Eigin (Ill.) Gas Motor Co. It simply consists of a



power plant driving a set of revolving hammers. Into the orbit of these hammers the back end of a cleaning chisel is forced by the weight of the brick itself, when held in the proper position for cleaning by the operator. Strength of blow delivered may be regulated by the operator increasing or decreasing the pressure exerted in holding the brick against the cutting edge. In other words, the harder the brick is pushed against the chisel the harder the blow delivered.

terial and invite their comment upon its desirability or feasibility and their advice as to the size interval between standard diameters which should be considered. It was explained that it was not intended that the adoption of certain sizes as standard should make it impossible to secure any other size required on special order; but that the general elimination of a great number of the sizes now in use and the consequent greatly increased production of the standard sizes could only tend to a reduction of mill costs and capital invested in manufacturers' equipment and in stocks in warehouses. Both of these savings should have a lowering effect upon the price to the consumer and the problem was, therefore, truly one of conservation.

In the case of machinery shafting the users were equally unanimous in their approval of the plan to standardize sizes, but recommendations as to size interval varied greatly. However these recommendations, so far as they were definite and specific enough, were tabulated and a diagram constructed showing the relative popularity of the various size increments for each inch of diameter.

With these data accumulated and sifted down to usable form the committee felt that it was in a position to present its information and preliminary deductions to representatives of other interested organizations. Accordingly, invitations were issued to twelve societies and associations requesting them to consider the proposed lists of standard sizes and to appoint representatives to confer with the committee before its report was finally formulated. The seven organizations as follows, responded and the standard sizes which follow have the unanimous approval of these representatives and, as far as can be learned, of their associations: American Hardware Manufacturers' Association, American Railway Engineering Association, American Supply & Machinery Manufacturers' Association, National Association of Manufacturers of the U. S. A., National Association of Purchasing Agents, National Machine Tool Builders Association and Southern Supply and Machinery Dealers' Association.

The committee then considered that it had completed the first part of the work to which it had been assigned, so on January 14 submitted to the Council a progress report in which it recommended the approval and adoption of the following lists of sizes as standard for the Society:

TRANSMISSION SHAFTING:

$\frac{1}{8}$ in.; $1\frac{1}{8}$ in.; $1\frac{1}{4}$ in.; $1\frac{1}{2}$ in.; $1\frac{3}{4}$ in.; $2\frac{1}{8}$ in.; $2\frac{1}{4}$ in.; $2\frac{1}{2}$ in.; $3\frac{1}{8}$ in.; $3\frac{1}{4}$ in.; $4\frac{1}{8}$ in.; $4\frac{1}{4}$ in.; $5\frac{1}{8}$ in., and $5\frac{1}{4}$ in.

MACHINERY SHAFTING:

Size intervals extending to $2\frac{1}{2}$ in., by sixteenth inches; from $2\frac{1}{2}$ in., to 4 in., inclusive, by eighth inches; from 4 in., to 6 in., by quarter inches.

The Council approved the report and accepted the recommendations.

In the opinion of the committee the adoption of standard sizes of shafting will mean that in the future there will be a gradual elimination of odd sizes from makers' lists and from dealers' stocks, and for new construction only standard sizes would be selected.

Before undertaking the standardization of the shafting formulæ and the dimensions of shafting keys and keyways the committee plans to reorganize itself and add to its membership.

* * *

A Comparison of Quarrying Methods

In an article prepared by Oliver Bowles of the U. S. Bureau of Mines in which he includes the observations and data obtained in investigations made of quarrying practice among cement plants, there are items that might interest

the clay product manufacturer. For instance, it is stated that a careful investigation of many quarries shows that the quarry costs per ton of rock obtained are as a general rule much lower where the churn drill and steam shovel are employed than where smaller hand drills and hand loading methods are used.

Figures which bear out the above fact are given. Thus the average total operating or working cost of delivering rock to the crusher—stripping not being included—for 11 quarries employing the hand-loading selective method was 27.4 cents per ton. The highest cost was 35 cents per ton and the lowest 18 cents. *An average of the same costs for eight quarries employing steam shovel methods was 21 cents per ton. The highest was 32 cents and the lowest 12 cents per ton. According to the above figures the cost may be reduced about 23 per cent. by the use of steam shovels.

* * *

Uses a Mirror to Keep Tab on Pugmill

A unique little kink that may not be of value to all but which has utility for some clay factories, is that which is made use of by A. D. Cochrane, superintendent to the Harbison-Walker Refractories Co.'s plant at Templeton, Pa. Fire brick manufactured by the stiff-mud process are made on the above plant and a Schaffer poidometer is used to feed the clay into the pugmill.

The use of the poidometer insures a uniform, constant supply of ground material to the pugmill and controls the water supply so that a consistent and correct amount of water and ground clay is introduced into the pugmill. Hence, with this equipment not only is the clay column issuing forth from the die of the brick machine more regular and of highest quality but the need for a man to fill the usual station of pugmill operator, is entirely dispensed with.

In order to keep tab on what is going on in the pugmill, Mr. Cochrane has arranged a mirror at the mouth of the machine at an angle so that the entire pugmill can be seen in the mirror from a point on the floor below where the workman in charge of the cutting table and general brick machinery maintenance is usually stationed.

The use of mirrors for surveying incidents going on at certain points is not new. Their use by church organists, street car motormen and others is very familiar to everyone. Undoubtedly, there are many other uses on a clay plant to which mirrors might be put effectively.

* * *

Inclined Hand-Fired Boiler Grate

In some of the hand-fired boilers that have flat grates, the rear end of the grate is somewhat lower than the front end. This is done so as to gain certain advantages which result from such construction. Thus the draft is stronger in the rear end of the ashpit, and with even firing, a thicker fire becomes built up at the rear end of the grate; and having the grate pitched toward the rear end makes slicing and firing easier.

* * *

Stoddard Talks to Oregon Brick Men

A number of common brick manufacturers, members of the Oregon Clayworkers Association, heard Ralph P. Stoddard, secretary-manager of the Common Brick Manufacturers' Association of America, when the latter addressed the Oregon clayworkers at their annual convention a few weeks ago.



Easy, Cool Bearings

Nonpareil Anti-Friction Metal is particularly helpful on heavy bearings in brick and clay plants, on motors, cars, and on all bearings that are apt to develop friction and heat. More power. Less shrinkage and less oil. No more hot journals.

Nonpareil has been easing the load on bearings since 1885. Trial order solicited.

THEODORE HIERTZ METAL COMPANY
 8011 Alaska Avenue ST. LOUIS, MO

THE TANK WITH
 A REPUTATION

Caldwell

Dependable Water Pressure

Caldwell Tubular Towers give you a positive, dependable water supply at a good pressure—all year 'round. They are strong and durable, and yet so simple you can easily erect one yourself. Approved engineering principles throughout and workmanship, backed by thirty years' experience, makes it a permanent, satisfactory investment.

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**It Makes No Difference
 What Your Requirements
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 Car for Your Needs**

Dryer cars of any size or type. Transfer cars, turntables, wheel barrows, wheels.

Send us your requirements and let us figure for you. No obligation whatever.

PETTIGREW FOUNDRY COMPANY
 HARVEY, ILLINOIS

IN *the* WAKE of *the* NEWS

Being Brief Mention of a Host
 of Interesting Happenings in the
 Varied Fields of Clayworking

Well Kown Brick Man of Westmount Dies

Many friends will regret to hear of the passing of John McKergow, ex-mayor of Westmount, Que., who was closely allied with the brick industry for many years. He was mayor of Westmount, 1912 to 1919. He began first as a clerk in the Grand Trunk Railway offices. He then went to the offices of A. A. Ayer Co. Starting there in 1872 he spent forty-five years there and retired only recently. He was president of the Laprairie Brick Co. until it was absorbed by the National Brick Co. Later with L. W. McArthur, he started the Mack Brick Co. and recently this was sold to the National Brick Co.

Mr. McKergow served in the Fenian Raids of 1867. He organized the 58th Westmount Rifles for the Great War. In 1868 he was married to Laura B. Goodly and in 1918 they celebrated their golden wedding. The funeral took place from his residence at 343 Kensington Ave., attended by the Mayor and Council of Westmount, school board, other public boards, police, firemen, boy scouts and a great many mayors and officers of surrounding cities, heads of institutions, and a host of other friends.

Old Brickmaker Passes On

Joseph Warren, Postmaster of Rochester, N. H., and for many years engaged in the brick manufacturing business in that state, died at his home in Rochester on May 18. Mr. Warren was 62 years of age and had long been prominent in Rochester, serving as representative in the legislature, mayor, state highway commissioner and in other capacities besides being postmaster for the past four years. For many years Mr. Warren conducted brick yards at Rochester and at Pembroke, N. H.

Blair and Manning Visit Columbus

C. C. Blair, vice-president of the Metropolitan Paving Brick Co., of Canton, and F. L. Manning, general manager of the Peebles Paving Brick Co., of Portsmouth, Ohio, were recent visitors in Columbus calling at the headquarters of the Ohio Paving Brick Manufacturers' Association.

Binyon Visits Columbus Brick Men

L. D. Binyon, of the S. S. Kimbell Brick Co., of Chicago, who is interested in the Chicago & Oronon Coal Co., an operating concern at Oronon, Ohio, was in Columbus recently calling on brick men.

Vacationing in Yosemite Valley

J. T. Roberts, president of the Stockton (Cal.) Fire & Enamel Brick Co., is spending a week touring in Yosemite Valley with his wife and family.

Goes to Fresno for Vacation

S. W. Smith of the Port Costa (Cal.) Brick Co., the United Materials Co., and other corporations, is spending a short vacation in Fresno, Cal.

Brick Plant Ready to Operate

Nearly all the machinery for the new brick plant at Oneonta, Ala. has arrived and the plant will be in operation soon. Modern machinery is being installed and the plant will have a capacity of 25,000 brick per day.

Urge Loading of Cars to Capacity—May Is Largest Month's Record for Five Years

Perhaps the car shortage is the greatest menace to the clay products industry on the Coast. The brick men have been notified by the railroads that the car shortage in the San Francisco section is already acute and that there is no prospect of better conditions in the immediate future or in fact until after the crops have been moved. The conditions surrounding the switching of cars thru the various freight yards seem very much improved, but this is very little help when the car situation is taken into consideration. One matter which would go far towards relieving the situation, and this applies to all shippers as well as to brick and other clay products men, is the loading of all cars to capacity. A minimum car load is 20 tons and nearly all the cars now in operation would carry twice this amount or more. If a brick manufacturer should get the reputation with the railroad companies of always loading every car to capacity that manufacturer would receive more consideration from the transportation companies than the manufacturer who always contents himself with the minimum amount per car.

This car situation not only affects the brick shipments directly, but as all building materials are also delayed it is affecting every line of the building industry and holding back construction work. Notwithstanding this fact the building permits issued in San Francisco for the month of May is the largest single month's record for five years. The total reaches \$3,879,060, which is \$3,000,000 greater than the total permits issued in May, 1919. The two biggest contracts are for two Class A buildings to cost \$2,500,000. One of these is a fifteen story office building at the northwest corner of Montgomery and Pine streets for the Assurance Company of California and the California Assurance Co. The other is the Grenada theatre at Jones and Market streets. Three Class B permits for large apartment houses aggregate \$135,000 and the rest are for small structures and alterations.

Outlook for Help is Much Better

While the labor situation in the brick yards of California cannot be said to have materially changed, it is asserted that a number of Italians who left the United States after the passage of the prohibition law have returned. While only a few of them have gone back to the brick yards their return is easing up the labor market to a certain extent and for that reason makes the outlook for more help in the brick yards appear much brighter.

Santa Barbara Using Lots of Brick

There has been a great scarcity of brick in Santa Barbara owing to the demand for brick in that community, but the brick yards of that vicinity state that the shortage will be over very soon. At the Coleman Brick & Lime Co.'s yards it is stated that a kiln of 440,000 brick is just about to be turned out, and this with what will be turned out by the Parker Brick Co.'s plant will ease up the situation.

Builders in Santa Barbara state that the popularity of brick construction is on a steady increase, supplanting lumber, and with hollow tile practically furnishes all the material for both the construction of homes and business places. The new home of the Santa Barbara County National Bank is all brick, the

Know Your Kiln Temperatures



Follow the temperatures your men are maintaining during every hour of kiln burning, by studying the continuous chart records of

BRISTOL'S

Thermo Electric Pyrometers

They will show every fluctuation above or below the prescribed standard.

Bristol's Pyrometers pay for themselves many times over by the economies they will enable you to make.

Shall we send you Bulletin AE-274?

THE BRISTOL COMPANY, WATERBURY, CONN.

BURN ANY COAL

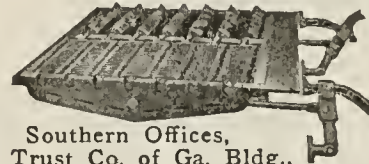
Never mind the quality; put it up to

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to take care of it. Thereby they will also take care of your pocketbook.

Smooth, even surface that will not warp. No complicated parts. Easily installed in any furnace by any mechanic. Send for descriptive literature.

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Complete Power Transmission
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Catalogs upon Request

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Hill Friction Clutch Pulley
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Leschen Wire Rope Tramways



The efficiency of the Leschen Aerial Wire Rope Tramways for handling materials has been demonstrated by the actual operation of many installations.

We have had many years of practical experience in this line of work, and shall be glad to discuss your transportation problems with you.

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A. LESCHEN & SONS ROPE COMPANY

New York Chicago ST. LOUIS Denver San Francisco

More and More

Clay Products Manufacturers are looking to "Brick and Clay Record's" Classified Department for assistance in disposing of their used equipment.

The following ad

FOR SALE—One auger machine complete with automatic cutter and Eagle repress machine. One 10-ton 36 in. gage locomotive, one model No. 20 Marion steam shovel. New York Clay Co., One Madison Ave., New York City. 6-2-1

brings before you one of the many bargains listed on pages 1249 and 1250 this issue. You've nothing to lose and everything to gain by looking them over and investigating the ones that appeal to you.

Equip Your Kilns

with

SCHURS No. 1 DOWN-DRAFT KILN BURNERS

For quick burns and better colors.

The Schurs is the ONLY Kiln Burner provided with a hood to protect the low fire from strong drafts when water smoking. Different types of Burners for the various classes of kilns.

Write for Catalog

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Los Angeles, Calif., U. S. A.

Sole Mfrs.

Note
Adjustable
Tip Hood

"Be Sure
it's
Schurs"



This burner will produce a light fire close to the tip hood or to the rear of the furnace as desired, with just a half turn of the tip at a time.

Parker Brick Co. furnishing the material. The large garage at Sola and Chapala streets is also of brick, and the new home of the Automobile Club, which is underway on the west side of State street will be of brick construction. In fact builders say that fully 75 per cent. of the buildings planned for the near future in Santa Barbara are either brick or hollow tile.

Says Brickyards Must Move Out

An ordinance was recently agreed to by the Los Angeles (Cal.) City Council giving the brick yards located in the Boyle Heights district until May 1, 1921, in which to find new locations and to move out. The ordinance was the sequel of a long and bitter fight to remove the brick yard from what is developing into a fashionable residence district.

To Turn Out 35,000 Brick Daily

J. C. Suits, F. Mulford and H. Banstetter, have erected a new brick making plant at Vista Del Mar, in the American Colonies tract near Long Beach, Cal. It is announced that the company has a capital of \$25,000 and that the initial output will be 35,000 brick per day.

Craig to be Site of Big Brick Plant

A deal was recently closed whereby a partnership consisting of E. E. Jones, A. N. Wilcox and Joseph W. Watson, became the owners of land east of Craig, Colo., for use as a brick manufactory. For the present, the output of the plant will be a hand-made, sand-mold brick and a limited number of repressed face brick. Brickmaking machinery will not be purchased at once, the partnership commencing operations on a small scale to supply the present demand for building materials, and later adding a large unit of the latest improved type at a cost of \$20,000. E. E. Jones will go east shortly to make arrangements for the delivery of the necessary machinery. The output of the plant at this time will be 10,000 brick per day.

Coal Shortage Forces Plants to Close

It is reported that two large brick plants at Albion, Ill., the plant of the United States Brick Co., at Tell City, Ind., and a brick plant at Huntington, Ind. have been closed down because they are unable to get coal.

Twin Falls Company Organized

A concern to manufacture brick and tile was organized at Twin Falls, Ida. recently, incorporated with a capital stock of \$50,000. The company is to be known as the Southern Idaho Brick & Tile Co., with Jacob Mattson, Grover M. Pugh and J. A. Johnson as incorporators.

Old Buildings Bought for the Brick

Many brick buildings of former days have been bought in Jeffersonville, Ind., in the last few months, it is reported, for the value of the brick they contain. Builders state that in many cases the brick is superior to any that can be bought at the present time. Some of the buildings that are changing hands are a hundred years old, it is said. The old brick is going into modern structure with new brick as a facing.

Increases Capital to \$50,000

The Industrial Brick Works, Boonville, Ind., has increased its capital stock from \$15,000 to \$50,000.

New Clay City Corporation

The Roberts Clay Co., Clay City, Ind., has been incorporated with a capital of \$15,000, to manufacture shale prod-

ucts. The directors named are: Benjamin F. Roberts, William A. Roberts and Irvin Smith.

Cost of Coal Will Increase Brick Price

Further increases in brick prices are likely to be made shortly according to Louisville, Ky., brick men, as a result of the rapid increase in the cost of fuel. Eastern Kentucky gas coal is selling at \$8 a ton at the mine for mine run, this being the best and most expensive grade in the state at the present time, and the grade in largest demand. Such coal is selling for as much and even more than similar lump coal. Western Kentucky mine run coal is quoted at \$5.25 and \$5.50 ton at mine.

Steady Demand for Brick and Tile

Demand for brick in Louisville, Ky., continues good, there also being a steady demand for tile. Building operations for May were not as good as in April, due to scarcity of money more than anything else, the money shortage having held new construction in check. In May permits for buildings ran \$353,650, which was nearly \$49,000 under May of 1919, and \$656,000 under April of 1920. This was a big slump in new work, but a great deal of work started earlier this year than it did last.

Brimfield Brick Co. Sold

Herbert L. Fiske has disposed of the Brimfield Brick Co. located at Brimfield, Mass., of which he had been the owner for several years. Mr. Fiske, formerly was assistant secretary of the Worcester Chamber of Commerce, but resigned to go into the brick business in which he had been most successful.

Sending Out Removal Notice

The Parry Brick Co. and the Boston Brick Co. announce that their office is now located in the Merchants Building, 77-79 Summer St., Boston, Mass.

Supplying Millions of Building Brick

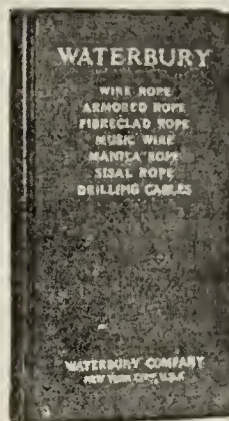
The Standard Brick Co., of Grand Rapids, Mich., is now in full operation and producing from 70,000 to 75,000 brick per day. C. G. Easley, the manager, reports the demand heavy and states that with average weather conditions, the company expects to produce at least 10,000,000 brick during the season.

St. Louis Brick Men Doing Their Own Switching and Hauling

The railroad situation has become so acute in St. Louis that the Evans & Howard Brick Co. has been compelled to hire switch engines from the Terminal Railroad Association and do their own switching in the St. Louis and East St. Louis railroad belt in order to keep the plant running. Under this arrangement the Evans & Howard company has fared better than most of the manufacturers of fire clay products in the district.

The engines are manned by crews hired by the brick company, and employes of the firm and union switchmen are also employed to couple cars. Many employes have been switched from other departments to the traffic department and are working both in the yards and in the office while others and officials of the company have been making hurried trips to various switching districts to hasten the hauling of their supplies.

Other brick manufacturers are having their cars billed to East St. Louis and are hauling their shipments across the river in automobile trucks. This movement is extensive and very costly as trucks are scarce, due to the heavy demand of



The life of Waterbury Armored Rope (Gore patent) is from two to three times that of similar quality rope of standard construction. Unlike ordinary protected ropes, the convex edges of the armor wires with which each strand is served permit easy flexibility without any creeping of the armor wires.

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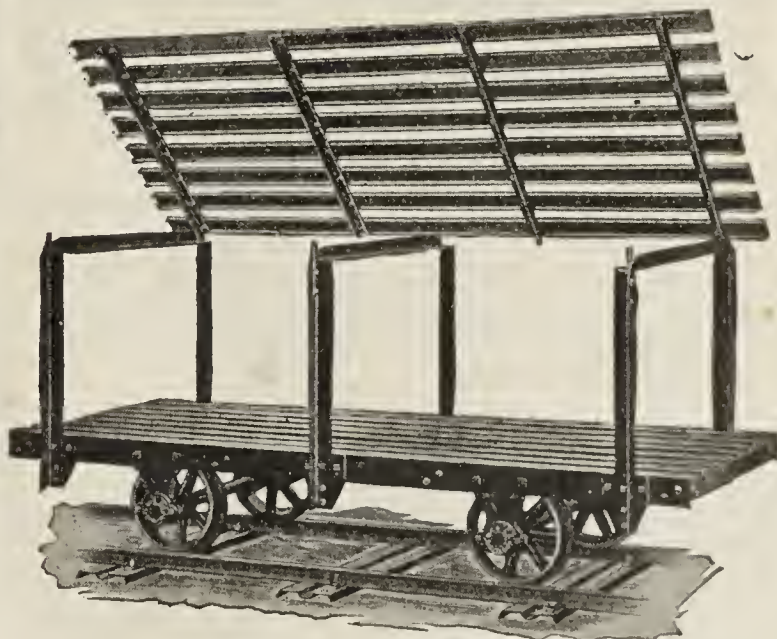
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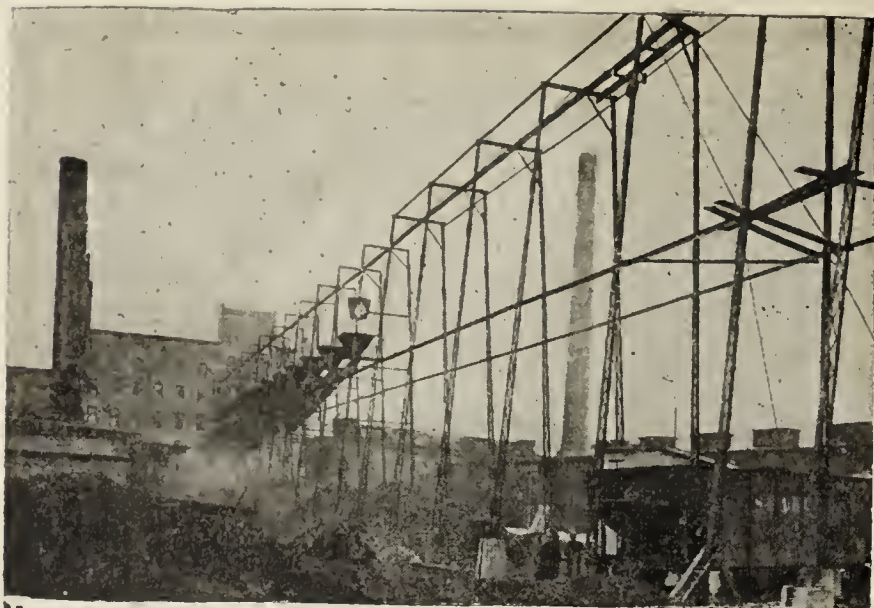


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The Robinson—LAKEWOOD LINE—
Dryer Cars; correctly designed, correctly
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will save its cost in a very short time, in cutting the cost of handling your coal. It also permits you to lay in a stock against threatened shortage.

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Godfrey Conveyor Company
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The MINTER SYSTEM of Continuous Burning Down Draft Kilns

Speeding up Production of Face Brick these days is necessary in order to supply the demand.

Coal is very scarce—Hard to get. All indications point to a general shortage for some time. The coal you can get must be utilized to the best advantage.

Would it pay you if you could burn more brick—a few million per year—with the coal you can get?

It can be accomplished by the continuous system of burning on your down draft kilns. Foremost is the MINTER SYSTEM—Because WE HAVE COMPLETE CONTROL, guaranteeing No. 1 ware production.

Let us show you how.

The Flint River Brick Company
ALBANY, GEORGIA

all manufacturers since the freight situation became acute. Virtually all of the large brick manufacturing concerns are located in choice sites along the Terminal railroad belt. In frequent instances men, teams and auto trucks have been sent only a few blocks into the yards to unload and haul material from cars hopelessly "buried" in a congestion of miscellaneous cars. At times manufacturers have been compelled to stop deliveries in St. Louis and nearby points to use all of their trucks and teams in hauling freight from cars.

The Laclede-Christy Clay Products Co. has made extensive use of its very large motor trucks in hauling supplies from East St. Louis. The Hydraulic-Press Brick Co., which has many teams for St. Louis deliveries, have used them with good result in getting material off cars in many of the tangles.

Whatever other lessons the switchmen's strike may have taught St. Louis brick manufacturers, the value of motor trucks has been clearly demonstrated. Those firms who depended chiefly on teams were compelled to rely almost exclusively on the few motor trucks they had in operation and those which they were able to hire in order to haul sufficient quantities of material from cars held up at any great distance from their plants.

The production of virtually all of the St. Louis plants was reduced to at least a third of the normal output, while some were forced to curb their production even more. Some of the manufacturers have since been able to increase their capacity above this estimate, which was made by E. J. Troy, secretary of the Manufacturers' Association of St. Louis, while others have been forced to the brink of a shutdown.

St. Louis brick manufacturers having properties on the outskirts of the St. Louis district, both in Missouri and Illinois, have had comparatively little trouble getting materials to these plants. It is said by traffic managers that they are able to get deliveries to these points with less difficulty than to St. Louis points. Good time is being made on the straightaway and to St. Louis, they say, but when it gets to the shipping center it is delayed for days or weeks.

Some brick is being billed south and southwest over the Mississippi River barge line, but the movement here is less than formerly as hundreds of shippers have flocked to the river route within the last month or two.

On a whole the brick manufacturers are slightly better off than most St. Louis firms whose shipments come from greater distances. A new freight tracing bureau is doing much to relieve the situation, but it is said that many other commodities are getting preference to building materials. Manufacturers of other commodities have been reporting complete or partial shutdowns every few days and only after trying every possible way to keep their plants in operation. One steel manufacturing concern followed the example of the Evans & Howard company and has been able to keep running by the manning of switch engines and crews on its own account.

Will Rebuild Ten Miles of Streets

Ten miles of St. Louis streets practically will be rebuilt between now and the first of next year. Director of Streets and Sewers Talbert has prepared a schedule of the work. Talbert is of the opinion that many of the trucks being used today on the streets of St. Louis are entirely too heavy for asphalt and other composition road materials on streets over which they are permitted to operate. He is in favor of limiting the use of such streets to heavy trucks and building more sturdy roadbeds of brick for heavy hauling. Six or eight contractors are ready to bid on the street work, Mr. Talbert said, and recommends that it be submitted to them, saying that it would save the city from 15 to 20 per cent. on the work. It is planned to begin this work in 50 or 60 days.

Salvaging Old Brick in St. Louis

There has been much salvage work in the last four or five months and there is a large supply of old brick in St. Louis. Several districts have been condemned for the purpose of connecting thoroughfares and the like, resulting in the razing of old buildings in blocks of ten, twenty or more. Wrecking concerns are trying to market this brick and are said to be doing so with some success. The firms handling the salvaged brick maintain that it is of superior quality to the brick being manufactured today. It cannot be said that the sale of this old brick is anyway general but it is likely to become a factor with which brick manufacturers will have to contend if conditions do not improve and if they have to advance their prices.

Columbus Issued 328 Permits in May

Building permits issued by the Columbus building department for the month of May showed a decline over those of March and April but a good increase over May of last year. The department issued 328 permits having a valuation of \$723,425 in May as compared with 368 permits and a valuation of \$509,375 in May of last year. For the first five months of the year permits to the number of 1,207 with a valuation of \$4,655,633 were issued as compared with 1,324 permits and a valuation of \$2,071,080 for the corresponding period in 1919. In the number of permits for dwellings there has been quite a decline, due largely to the tight money market which prevents home building. Dwellings licensed during May, 1920, numbered 29 as compared with 32 for May, 1919, and 56 for April, 1920. The largest building project in the list provided for was the large shoe factory for the Julian & Kokenge Co., estimated to cost \$205,000.

Will Dissolve Hallwood Brick & Tile Co.

An order dissolving the Hallwood Brick & Tile Co., of Columbus, Ohio, is sought in a suit filed in the court of common pleas at Columbus and legal action will probably be taken to end the existing of the company. The plant, located at 17th avenue and the corporation line was taken over by the Shale Brick Co., some six months ago. The operating company has just completed eight new kilns making 28 in all, giving a daily capacity of 25,000 common brick. William Reinfoos is president; John W. Wilson, secretary and treasurer and Walter T. Brown, general manager. The old company will be discontinued and the assets divided among the heirs of the late Henry S. Hallwood.

Columbus Commons Selling from \$23 to \$30

One of the strongest features of the brick trade in Central Ohio territory is the strong demand for common brick. All dealers and manufacturers of common brick report stocks purchased before manufactured and the purchaser is urging immediate shipment. Considerable factory construction is going forward as well as remodeling of store buildings and other existing structures. Prices for common brick in Columbus delivered on the job run from \$23 to \$28. Some sales have been made as high as \$30. There is no accumulation of common brick stocks and factories are being operated with a full force of men.

Columbus Coal Men to Buy Trimble Plants

The Hisylvania Coal Co., of Columbus, Ohio, recently purchased at receivers' sale two brick plants, formerly operated by the Trimble Brick Co. One of the plants is located at Trimble and the other at Gloucester. Both have been idle for some time as the company went into bankruptcy. After the necessary repairs are made to the plant and machinery, both will be placed in operation. One will make

You won't have to worry about competition if you treat your clay with

R. H. Precipitated Carbonate of Barytes

You can safely guarantee that your brick will be

Scum-Proof

You can get a higher price and influence architects to specify your product because Efflorescence is prevented absolutely.

But insist on the R. H. BRAND—it's dependable.

We have a complete line of high grade chemicals for the clay industry

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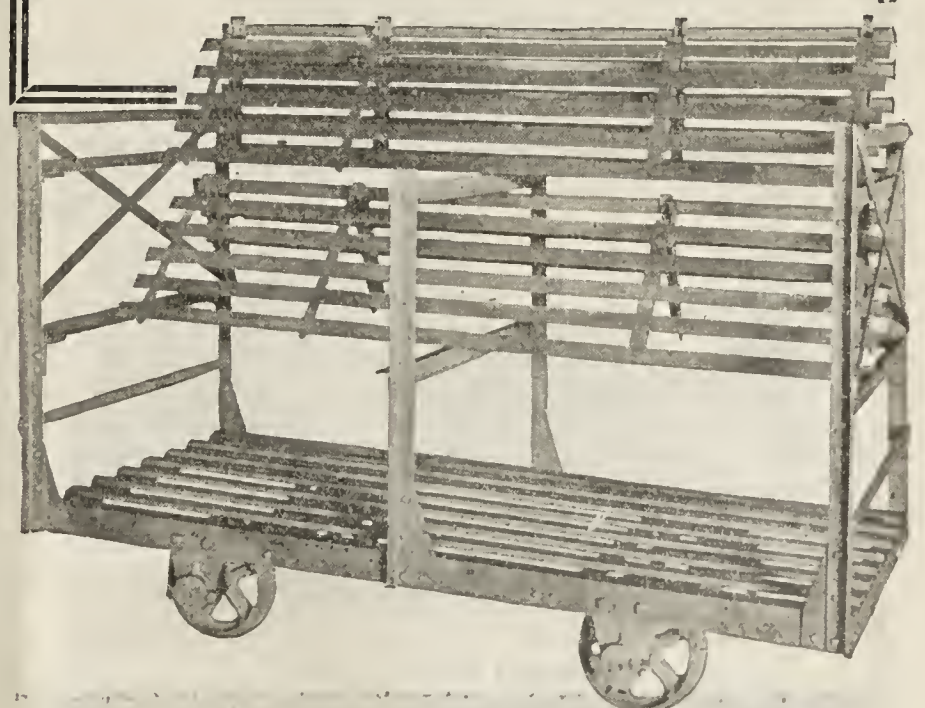
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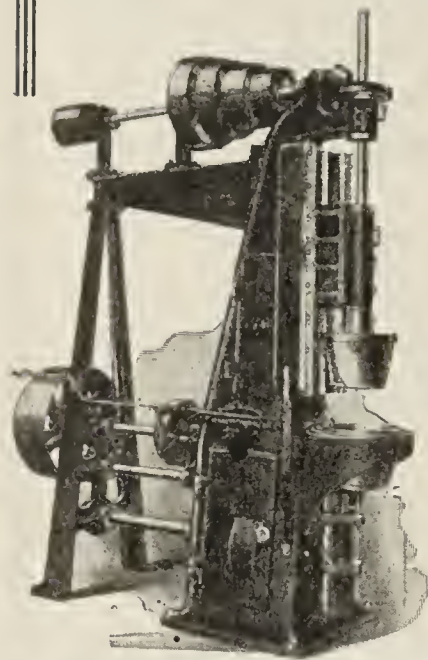
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ARE YOUR PROFITS AS LARGE AS THEY SHOULD BE

or are they cut short for the reason you are using moulding machines in manufacturing Flower Pots, Nozzles, Insulators, etc., that are not dependable in speed and turning out quality and uniform ware?



Let us tell you how the Baird Moulding Machine will show you a way to more profit and success in the specialty business.

Send us a sample of your clay with inquiry

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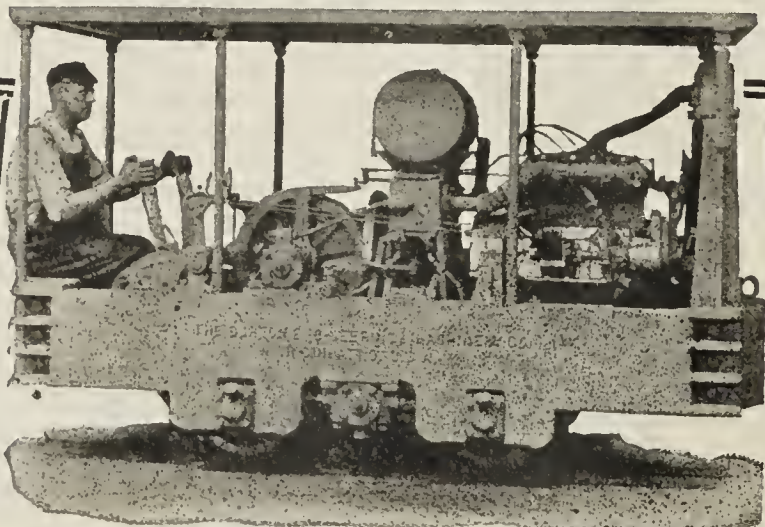
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assures you of a power unit that will stand the severest treatment received in clay plant yards and pits.

Durable, Dependable and Easy to Operate. No coal or steam required. Forward and reverse at any speed. No gear differentials or clutches. Always Ready.

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the BURTON LOCOMOTIVE*

The Burton Engineering & Machinery Co.
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"Hauls It Economically"

paving brick and the other hollow building tile. The capacity of both plants is about 100,000 brick daily. The headquarters will be with the Hisylvania Coal Co., 8 East Broad St., Columbus, and E. W. Blower will act as salesmanager.

Sheds Filled to Overflowing

John Cooper, manager of the Columbus (Ohio) office of the Thomas Moulding Co., recently inspected the plant of the company, operated under the name of the Straitsville Impervious Brick Co., at New Straitsville, Ohio. He reports that all of the sheds are full and that brick are now being piled on the outside. This is the result of rather active operations coupled with the reduced shipping facilities which has caused an accumulation of stocks.

Building New Plant at Vermillion

The Monroeville (Ohio) Clay Products Co. has started the erection of a large plant at Vermillion, Ohio, for the manufacture of drain tile and common brick. The same concern has just completed a plant at Monroeville and has in addition a plant at Fredericksburg with seven kilns. All of the plants manufacture drain tile and common brick.

Doubling Capacity at Fredericksburg Plant

The Mt. Cherry Coal Co. is progressing steadily in developing its large brick plant at Fredericksburg, Ohio. One of the kilns has been completed and five others are in process of construction. It is planned to more than double the output of the plant. H. Klocke is sales manager of the brick department of the company.

Different Street But Same City

The Allentown Tile & Marble Co., Allentown, Pa., has removed its works from Linden Street to 12 South Sixth Street, where increased facilities are provided. The company will continue with its same general line of specialties, including fine mosaics, ceramics, Terrazzo, tile work, etc. Andrew Rossetto is head of the organization.

Start Work on Common Brick Plant

On May 29 the McAdoo Waddell Brick Co., recently organized, began the erection of its new plant at Union City, Tenn., for the purpose of manufacturing common building brick.

Oceana Brick to Go to Norfolk

The Atlantic Brick Co., recently incorporated by Norfolk, Va., parties, will soon have their brick manufacturing plant in operation at Oceana, Va., giving employment to a large number of workmen. It is understood that the entire product of the plant will be shipped to Norfolk for building purposes in that city.

Building Revival in Saskatchewan

Twenty million dollars' worth of new building in the Province of Saskatchewan in 1920 is the prediction of a Toronto expert who is in Regina looking over the field; and of this sum Regina will account for over \$5,000,000. In his opinion there is not much likelihood of prices coming down this year. Statistics show that in the case of 15 basic building materials prices have advanced 108 per cent. since 1914. In iron and steel the peak was reached in 1917, and since then there has been a drop of about 25 per cent. Lumber, paints, and glass show the greatest increases, while in brick and cement the advances have been only moderate.

As regards the Province as a whole, it is estimated that

at least 600 new residences and 200 new schoolhouses will be erected. The largest items on the program, however, will be made up of business blocks, warehouses, and government contracts. Among the last named are the asylum at Weyburn, the Canada Lignite Board plant at Bienfait, government roads and bridges, court houses, and the Prince Albert jail. Besides these, at least 25 bank branches will be erected this year at various points in the Province.

Statistics gathered for all Canada show a marked increase over the year just past, the expenditure for 1920 on new building and construction work being estimated at \$300,000,000 against a total of \$190,000,000 in 1919.—*Commerce Reports.*

Will Reopen Under New Management

The Frontenac Floor & Wall Tile Co., Kingston, Ont., whose plant has been closed down for the past two years, has been reorganized and will operate under an entire new management. Everett Townsend, who will have charge of the company, was for twenty-years managing-director of the Robertson Art Tile Co., Morrisville, Pa., one of the large United States tile manufacturers making what is called a full line of tile which included white wall tile, all kinds of bright, dull finish, and opaque colored glazes, pinks and ox-bloods, also ceramics for floors as well as half-inch thick tile in white and various colors. At the present time it is the intention of the Frontenac Floor & Wall Tile Co. to confine themselves to making ceramics only, as the plant with the present equipment is not arranged to make any of the other lines. The company has been somewhat hindered in starting up because of the delays in getting coal and clays from the United States but they hope to be running the plant at full capacity shortly. The plant superintendent will be Frank Stevenson, who is an expert machinist and die maker with seven years' experience with the Trent Tile Co., Trenton, N. J., and three years with the Old Bridge Enamel Brick & Tile Co. of Old Bridge, N. J.

Building 30M Brick Capacity Plant

The Whitby Brick & Clay Products, Limited, who are successors to William Gilmore, Whitby, Ont., are erecting a thoroly modern plant. Seven thirty-foot down-draft kilns will be erected with waste-heat dryer and up-to-date machinery. The plant will have a capacity of thirty thousand brick per day or an equivalent tonnage of hollow ware. The machinery has already been purchased and the lumber and other materials for construction is now partly on the plant. They have a very fine raw material and will be able to put a first-class material on the market.

Make Mantel Tile and Special Face Brick

Ceramics Ltd., which is erecting a factory on Industrial Island, Vancouver, B. C., will make mantel tile and specially designed face brick.

The town of Brockville, Ont. has entered into an agreement with W. H. Wood, the present owner of the brick plant in that town whereby the corporation will take over the manufacture of brick and will retain Mr. Wood at a salary to manage the plant.

New Brick Plant at Matheson

A new brickmaking plant is being established at Matheson, Ont., by the Matheson Products Co., who have 190 acres with a clay deposit said to be forty feet deep. The company will manufacture brick, tile and terra cotta ware, with a capacity of 20,000 per day at the start. R. S. Potter is president and R. L. Ollman, manager of the company.

ERIE Shovel
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"Very Economical"

"During the past year we have moved approximately 50,000 cu. yds. of slate shale with our ERIE Shovel. It is a wonderful machine, ideal for our work, as it is easily moved.

We find it very economical and inexpensive. We are very much pleased with our investment." N.M.

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Serves as
Steam-Shovel
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(Clamshell)

The ERIE Shovel is easy to operate. Very speedy. Built with extra strength all the way through. Gives steady service in hard shale.

Let us send you full details about the ERIE Shovel, and what it will do. Write for Bulletin B.

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ERIE Revolving Shovels



Per Cent Slip	Annual Cost of Slip per \$10,000 worth of fuel
1%	\$100
2%	\$200
3%	\$300
4%	\$400
5%	\$500
6%	\$600
7%	\$700

These heavy lines indicate the dollars that Cling-Surface will save for

you.

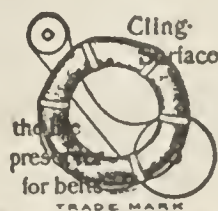
If you use belts, and if you do not use Cling-Surface, the chances are that you are losing money at one of the rates indicated above. Thus if you are now spending \$10,000 per year for fuel and your belt slip is 4% you are losing \$400 per year unnecessarily.

A few cents spent for Cling-Surface and a few applications will save the \$400. There is no question about it.

Cling-Surface is a NATURAL belt treatment—a preservative—a lubricant which penetrates the belt and lubricates every tiny fibre—makes the belt pliable—causes intimate contact—permits slack or easy running—increases area of contact on both pulleys—reduces tension and bearing friction—increases the capacity of the belt—rejuvenates—lengthens life—waterproofs—prevents running off—etc.

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JENKINS Standard Iron Body Globe Valves



Know genuine Jenkins Valves by the name and the Jenkins "Diamond Mark"—obtain them through supply houses anywhere.

Also made in Angle, Cross Check, Y, Safety and other types. They are heavier and considerably stronger than most of the standard iron body valves. Regularly fitted with Jenkins Renewable Composition Discs. Wide yokes give easy access to the stuffing boxes which can be packed under full pressure when the valves are wide open. Raised Seat Rings are of high grade steam metal composition and can be removed and renewed. Suitable for 150-pound steam pressure.

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"We find that the use of Barium not only entirely eliminates the scum caused by sulphates, but deeper and richer colors result than would be expected." So writes a clay products company in Kentucky.

It is obvious to any clay products manufacturer that Barium Carbonate added to the pug mill or to the dry pan will produce brick and tile that command a higher price. It will build up more business than an inferior product which is "off color" and marred by white streaks.

Barium Carbonate makes the salt glaze stick to sewer pipe.

We can show you how the appearance of your ware can be improved, and can give you names of clay concerns who are profiting today by the use of Barium.

Write Us NOW

Rollin Chemical Corp.

EQUITABLE BUILDING

120 Broadway, New York City

New Concern Takes Over McDonald Plant

Brigden Brick & Tile Co., Ltd., Brigden, Ont., has been incorporated with a capital of \$40,000 to take over the business of A. E. and R. T. McDonald, brick and tile manufacturers of Brigden. The incorporators are Adam E. McDonald, Robert T. McDonald, of Brigden; Dudley A. G. Parsons and Howard M. S. Parsons, of Sarnia.

Investigate Modern Manufacturing Methods

According to information at hand, preliminary work is now in progress in the establishment of a new brick and tile plant in New Brunswick that will have an output of 3,000,000 to 5,000,000 brick per year. Those in charge are at the present time investigating the most modern manufacturing methods for a plant of that capacity.

✻ ✻ ✻

The LETTER BOX

A Place Wherein Letters
That Have General Interest
Are Published and
Commented Upon

Importation of Scotch Fire Brick

On page 1016 of the May 18 issue of *Brick and Clay Record* there appeared a short item which stated that it is not often that brick are imported from Great Britain or other foreign countries thru the port of San Francisco, Calif. It further stated that recently it was announced that fifty thousand fire brick weighing 145 tons, had been brought to San Francisco from Glasgow thru the importing house of Balfour, Guthrie & Co. While this brick was imported, it is understood that they are for some special work for which they are regarded more suitable than any of the fire brick made on the Coast.

We have recently received a letter from a reader of *Brick and Clay Record* who noticed the above item and wrote in as follows:

"Referring to the item in *Brick and Clay Record* of May 18, headed 'Importing Fire Brick from Great Britain,' in which you say it is not often that brick are shipped thru the port of San Francisco from foreign countries, allow me to state that I do not think that this is exactly correct unless conditions have changed within the past few years. During the war, in all likelihood, no brick were shipped from Great Britain as I understand they had all they could do to satisfy their own needs and to assist their allies. In fact, I believe there was some fire brick shipped from this country to Europe during the recent conflict.

"The 50,000 fire brick to which you refer is only a small lot in comparison to what was shipped to the Pacific Coast some thirteen years ago. Thirteen years ago when I was in the fire brick business in Scotland, we had three or four shipments which usually ran from 150 to 300 M fire brick for shipment for the firm of Balfour, Williams & Co., whose headquarters are in Liverpool, England, with branches in Seattle, San Francisco and other Pacific ports under the name of Balfour, Guthrie & Co. There are at least two other importing firms on the Pacific Coast who have offices on the other side and who receive shipments of large quantities of fire brick from the same source. There are several smaller concerns of less importance and a number of merchants in England who ask for quotations for brick for these ports.

"I made brick on the Pacific Coast some ten years ago and the greatest competitors at that time were the Scotch fire brick manufacturers. I have seen several different brands of these Scotch fire brick some of which were considered a

number two or second-class fire brick over in England. I have also seen some Scotch ganister brick but do not know what they were going to be used for. It was very difficult at times to convince consumers that we could make brick that would suit their purpose as well as the Scotch brick."—D. M. Low, St. Louis, Mo.



R. T. Stull Addresses Seattle Ceramists

A group of thirty, composed of local clay men of Seattle and vicinity, and members of United States Bureau of Mines, gathered at an informal dinner to hear R. T. Stull discuss the ceramic work of the United States Bureau of Mines. The dinner was held at the Men's Faculty Club, University of Washington Campus, Thursday evening, May 20. Informal talks were given by Dean Milnor Roberts, head of the College of Mines; Oliver C. Ralston, Superintendent Seattle Station, United States Bureau of Mines; Doctor L. E. Shaw, Assistant Chief Chemist, United States Bureau of Mines, and H. E. Parmelee, editor "Chemical and Metallurgical Engineering."

Mr. Sheldon L. Glover, geologist, Washington State Geological Survey, gave a description of the cooperative work of the State Geological Survey and United States Bureau of Mines in studying the ceramic resources of the state and pointed out the location of the various clay deposits. Over three hundred samples have been collected from various points in the state and are being tested in the ceramic laboratory of the College of Mines. This work will continue thru the year and will comprise a general preliminary survey of the ceramic resources of the state, both developed and potential.

After dinner the ceramic laboratory was visited. The ceramic equipment consists of apparatus for grinding, pugging, molding, drying, firing and testing most of the common forms of clay wares.

Structural and refractory wares: crusher, rolls, 4-foot dry and wet pan, Mueller auger machine for end cut full sized brick, 4-inch drain tile and hollow block; steam dryer and sample kilns.

Terra cotta; plaster molds, DeVilbiss spraying apparatus, transverse and tensile strength machines, engobe and glaze materials, and ballmills.

Pottery: Patterson clay washing outfit, including double blunger, power screens, agitator, pump and filter press, potters pug mill, potters wheel, plaster molds and pottery kiln.

General testing: Brass molds, overflow type of volumeters, constant temperature electric dryer, gas fired fritt kiln, Brown radiation pyrometer, carbon resistance electric furnace for high temperature.

Lantern slides of the clay plants and deposits of the Pacific Northwest were then shown by Professor Hewitt Wilson who has charge of ceramic work of this section for both University of Washington and Bureau of Mines.

Professor Stull and Doctor Shaw have been making a tour of the Pacific States inspecting the Bureau of Mines work and ceramic conditions in general.



Americanism

The right and square thing for any man to do who claims the protection of the American flag is to stand up for the United States and consider its interests first. If he is more interested in some other country than he is in the United States, let him step out from under the flag and go where his interests center. This is no place for him.

America for Americans, first, last and all the time, and "Americans" means those in whose hearts beats the free, true, law-abiding spirit of America, whether they were born on its shores or came to them from other lands.—Selected.

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Of Every Description

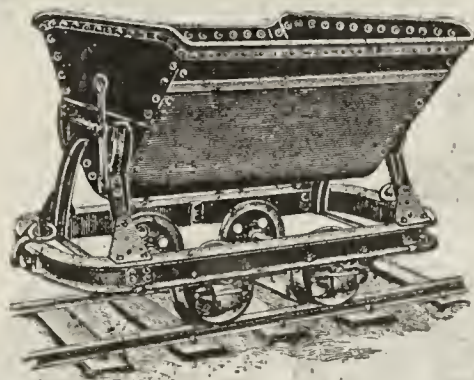
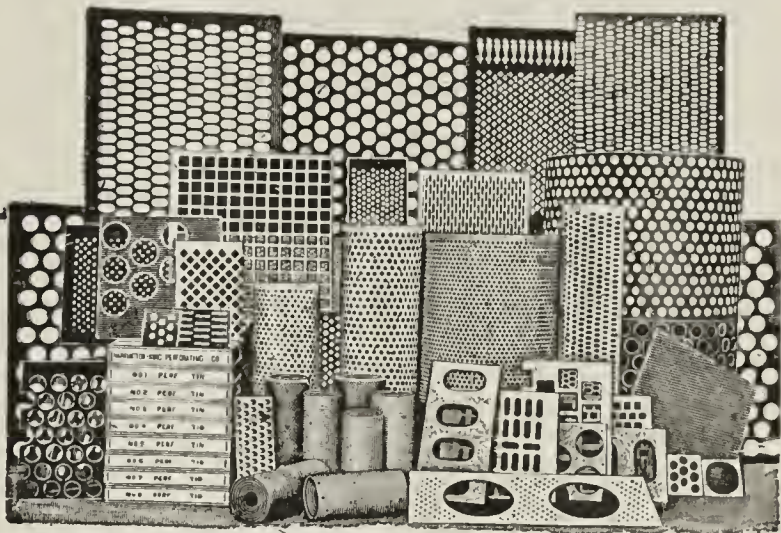
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No Other Screens Will Give You Equal Capacity,
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We manufacture cars for pit, dryer and yard use, steel car wheels, rails and general labor and time-saving equipment. Ask for catalog No. 8 c.

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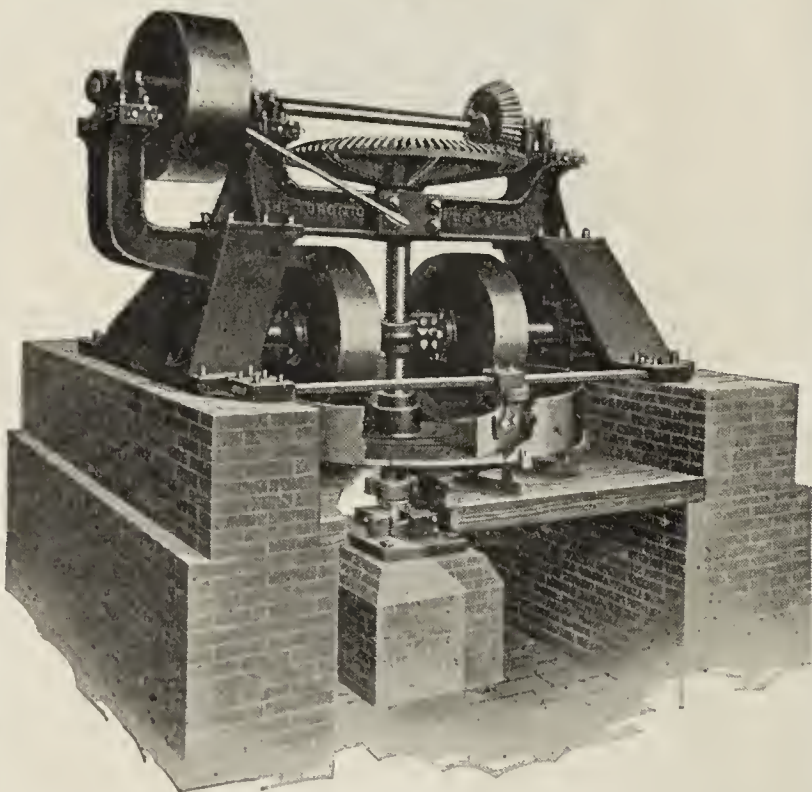


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The rugged construction of our Pans insures long and efficient service with the least expense for upkeep. A large list of satisfied customers is evidence that our Pans are

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QUESTIONS

A Two Cent Stamp May Bring
You Advice That Will Stop
a Waste, Improve Your Ware
or Lower Your Production Cost.

Address all communications intended for this department to "Editor Questions and Answers," care of "Brick and Clay Record," Chicago.

What Is the Bernhadi System?

950. *Canada—I have been endeavoring to obtain particulars of the system of clay brick manufacture known as the Bernhadi System. I believe this is being used in parts of the Western States, and I will be obliged if you can forward me particulars of the commercial success of this system and tell me if it is now used in the manufacture of brick and tile materials.*

From the Bureau of Standards, Department of Commerce, Washington, D. C., we have received information concerning the Bernhadi system, as follows:

"We desire to say that we are not familiar with the Bernhadi system of brick manufacturing to which you refer. Are you certain that the name is correct and that it is not known under some other designation?"

"Concrete brick have been made in Europe on Bernhadi presses and it is just possible that this may be the system to which your correspondent refers. If you could give us a hint as to the principles under which it operates, we should be glad to look into it."

The above information is all that we are able to obtain concerning the system mentioned by our correspondent and should any of our readers be in a position to give additional data, we will be glad to hear from them.

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Roughing the Surface of a Brick

948. *Alberta—We are manufacturing a rough face brick and are naturally ambitious to make the best possible ware. Have you any information in regard to the manufacture of this article, or could you put us in possession of pamphlets or books on the subject?*

What kind of cutting table is best adapted for this work and what thickness is found to be the most desirable for this class of brick?

About the only information that has been published on the manufacture of rough texture brick, has appeared in the many issues of *Brick and Clay Record*. We know of no book that treats on this subject in a manner that would appeal to you.

The type of cutting table generally used on face brick plants where rough texture brick are the main product, is a rotary cutter such as, for instance, that which is illustrated on page 785 of the April 6, 1920, issue of *Brick and Clay Record*.

We do not know exactly what you mean by what thickness is found to be the most desirable for this class of brick. However, if you mean what size the brick should be made we can mention that the American Face Brick Association has adopted the dimensions of $2\frac{1}{4} \times 3\frac{3}{4} \times 8$ inches as the standard size, and all manufacturers belonging to that association, as well as others, are making face brick approximately of these dimensions.

There are various methods of roughing the surface of brick,

and ANSWERS

Best Authorities in Every Clay working Branch Are Called Into Consultation—Their Advice is Free to You, Thru These Columns

Should a reply be desired by letter, send a stamped and addressed envelope with your question, and it will be answered promptly.

one of which is the employment of old hack-saw blades which are placed near the die in such a position that they scrape the surface of the clay bar on three sides. In some instances the clay column is made a trifle larger than that required for standard size brick and wires are stretched across the column at the mouth of the die. These wires are three in number, one being horizontal and two vertical. They are placed so as to cut $3/16$ of an inch off the top and each side of the clay bar. It is well to space the wires so that the vertical wires are about $1/4$ of an inch away from each other as this gives sharper corners to the two ends of the face of the brick. The wires should be stretched very tight as otherwise they will bend and give the face of the brick a convex surface.

Another method by which the surface of the brick may be roughened, is by the use of a number of nail points which are held in some manner so that they scrape into the face of the clay column a short distance.

There are also some patented machines for making rough texture brick which may be purchased from some of the brick companies.

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Who Burns Paving Brick With Oil?

949. *Indiana—We are very anxious to receive information regarding the burning of paving brick with oil as fuel. If some of the readers of your journal would be kind enough to let us know what experience they have had with this fuel, we would appreciate it very much.*

Brick and Clay Record is unable to recall at this moment any paving brick concern using oil to burn their brick. If any reader can supply our correspondent with the information he desires, we will be glad to hear from him so that we may forward whatever data he can supply to the party making the inquiry.

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Kiln for Calcining Fire Clay

947. *Alabama—I understand that the Laeledge-Christy Clay Products Co. and the Evens & Howard Fire Brick Co. have very satisfactory calcining kilns which I judge are built on the order of a lime kiln. If you can give me a sketch and information on the subject I will appreciate it. I do not want a rotary kiln and I cannot figure out a way to keep the clay from falling thru the drawing door of a lime kiln before the clay is calcined.*

Please give the method of manufacturing bauxite brick and the cone that the raw material will have to be burned at to take out the shrinkage. Who are the users of bauxite brick and in what part of the furnace are they used? Furthermore, what is the present price of this type of refractory?

You state in your letter that you do not want a rotary kiln. We wonder why you take such a stand with regard to calcining kilns. Information has reached us that several refrac-

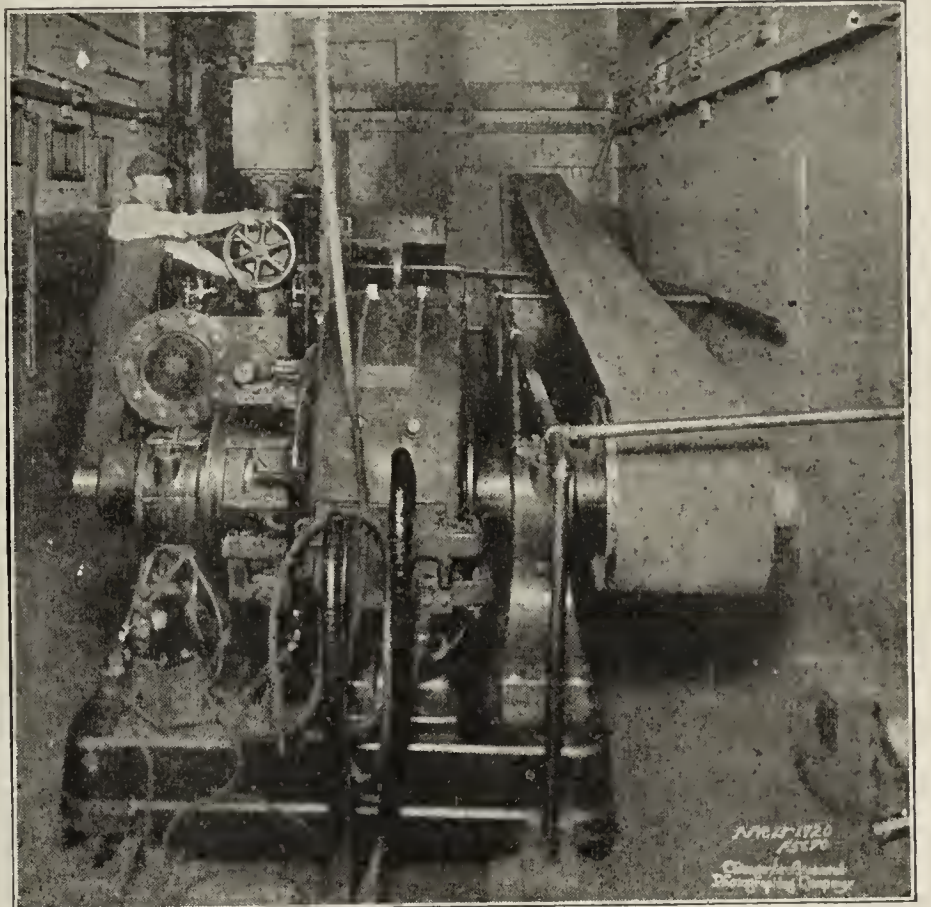
Stanley

SOLID

WOVEN

COTTON

Belting



UNUSUAL CONDITIONS

are overcome by Stanley because of the reserve strength woven into it.

That is why the 14 inch Double Stanley Belt pictured above is able to carry a 30% overload on this overpull main drive.

The factor of safety is very generously provided for in Stanley Belting and remains there because it is solid woven—no plies or laps to come apart.

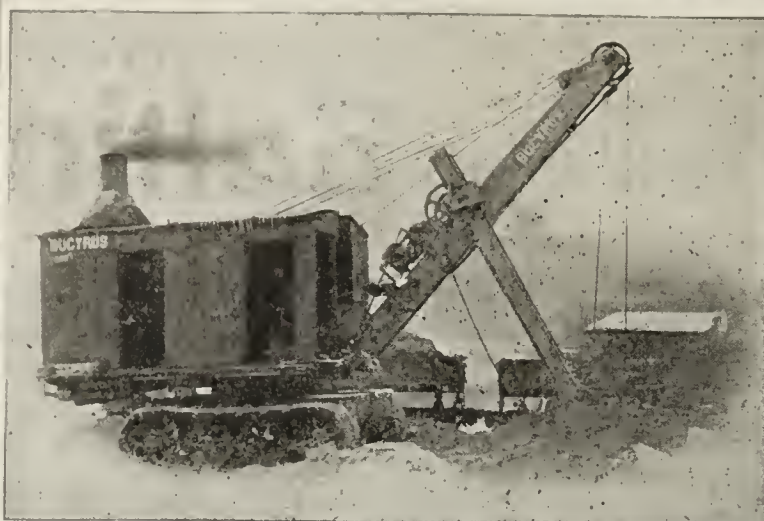
The compound with which it is impregnated resists the injurious effects of heat, moisture, steam, oil, dirt and grit.

What little stretch Stanley contains is removed, once and for all, within the first few days of operation.

These are a few of the reasons why Stanley is the favorite belt of the Brick and Clay Industry.

STANLEY BELTING CORPORATION
34 South Clinton Street Chicago

BUCYRUS



The Universal Shovel THE BUCYRUS 30-B

So designed that it may readily be changed in the field from any of the combinations given below to the other.

REVOLVING SHOVEL—1 yd. dipper.

DRAGLINE EXCAVATOR—1 yd. bucket, 35 ft. boom, $\frac{3}{4}$ yd. bucket, 40 ft. boom.

CLAM SHELL EXCAVATOR—1 yd. bucket, 35 ft. boom, $\frac{3}{4}$ yd. bucket, 40 ft. boom.

CRANE—Capacity $9\frac{3}{4}$ tons at 20 ft. on caterpillars, 9 tons at 20 ft. on Railroad Trucks or Traction Wheels.

The 30-B may also be supplied with extra equipment for high lifts or for sewer excavation. It may be mounted on caterpillar traction, railroad trucks, or traction wheels and may readily be changed from one to the other in the field.

LET OUR REPRESENTATIVE CONSULT WITH YOU

All sizes of revolving and standard railroad type shovels and dragline excavators.

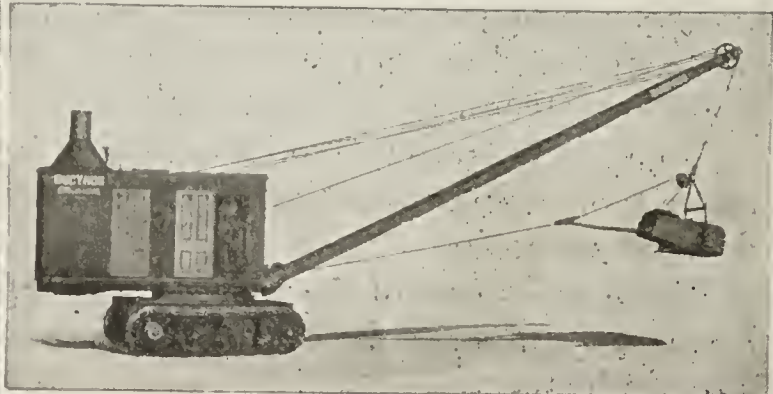
Send for Bulletin C-301-B

BUCYRUS COMPANY

SOUTH MILWAUKEE, WIS.

New York, Birmingham, Denver,
Cleveland, Minneapolis, Portland, Ore.
San Francisco, Salt Lake City,
London, England

226



tory companies are now investigating this type of kiln with the thought of using it for calcining their raw clay.

In referring your request to the Laclede-Christy Clay Products Co. we have received the following information from them: "In answer to your request for information regarding a vertical shaft kiln for calcining, during the last fifty years this concern has tried out a number of such kilns. Also, shafts built on an angle where the product to be calcined was allowed to slide down over the fire and was then drawn off as fresh material was filled in at the top.

"At the present time we are using a solid bottom brick kiln with a flue thru the center or a 'riddle' or open bottom type of sewer pipe kiln for calcining. We do not recommend the vertical shaft type for our work. If your correspondent wishes to see a vertical shaft kiln in operation he could do so by visiting a lime plant."

With regard to the method of making bauxite brick, we wish to advise that the raw bauxite is first washed and the pure material separated. It is then calcined to a temperature of cone 12 to 14. The calcined material is then crushed and mixed with sixteen to thirty-five per cent. of plastic fire clay, and then with the addition of water, thoroly worked and molded. Attempts have also been made to bond the calcined material with sodium silicate or lime. The users of bauxite brick are the iron and steel industry and smelting works where this material replaces other basic refractories. It has been used as a substitute for magnesite brick in some instances. However, it is not wholly proof against bismuth, antimony and lead slags. The biggest difficulty in the use of bauxite brick has heretofore been due to the materials shrinking sufficiently to imperil the structure in which it was used.

The price of bauxite brick is about \$40 to \$45 per net ton for brick containing fifty-five per cent. of bauxite and \$90 base price for brick containing seventy-six per cent. bauxite.

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Desires Information on Brick Making

938. So. Dakota—I was handed a copy of "Brick and Clay Record" recently, and found in it many things of considerable interest to me. I would like to have some general information as to where some clay can be found, of which I might make brick and tile. I am of the opinion that such a clay may be close at hand and would like to know where I might have clays I find, tested scientifically.

Where is the brick clay generally found—in flood plains, hills, meadows, near springs or is it of volcanic origin and found among decayed rock? I would like to have all the information that you can supply me that will aid me in locating clays and learning something about this industry. What will a modern brick plant of about four kiln capacity cost?

Would it pay to manufacture just common brick and tile if you had a suitable clay for manufacture?

What kind of drill is used and is the best clay always found at the bottom or top of a deposit?

Clays and shales used for the manufacture of brick and tile are found widely scattered thruout the whole country. Their origin can usually be traced to the deposit of mineral particles obtained from rock weathering and decay. These clays or shales may or may not occur near springs, in hills or valleys, or be of volcanic origin.

Shales are usually covered with surface clay that frequently is unavailable for the manufacture of clay products and must be removed so that the shale may be obtained. On the other hand, there are numerous cases where surface clays may be used for the manufacture of common brick and tile. Surface clays are frequently too fat or plastic and may give difficulty due to cracking in drying or burning.

Many plants manufacture both brick and tile, but owing

to the great increase in the cost of materials, it is difficult to estimate just how much it would cost to build and equip a new plant. However, if round down-draft kilns are constructed they will cost about \$5,000 each if built properly and of good materials. The cost of a new plant would vary considerably according to how well it is equipped with modern machinery. However, it is doubtful whether or not a modern plant of four kiln capacity can be constructed and equipped for less than \$40,000 to \$50,000.

To have your clays tested scientifically we would recommend that you send them to the ceramic departments of some of the universities such as the University of Illinois, Urbana, Ill., Ohio State University, Columbus, Ohio; New York State School of Clayworking and Ceramics, Alfred, N. Y., or Rutgers College, New Brunswick, N. J., which do this kind of work.

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Court Grants Big Award for Clay Property

The termination of an interesting case involving what is held to be valuable clay lands in the vicinity of Peekskill, N. Y., has been brought about by the issuance of a final order by Justice J. Addison Young, sitting in a special term of the Supreme Court at White Plains, N. Y., in May. This order directed judgment against New York State for an amount of \$152,352.04, in favor of Franklin Couch, Peekskill, for clay properties appropriated by the state in June, 1914.

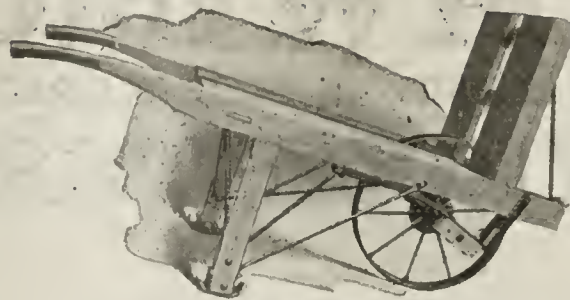
The award was based on a report of Charles J. Oldfield, Peekskill; Thomas J. Hassett, Beacon; and Jacob A. Bernstein, Mount Vernon, N. Y., Commissioners of Appraisal, appointed by the Supreme Court to determine the value of the land. The commissioners were engaged for a total of about one hundred days in viewing property, hearing testimony, reading testimony, listening to the arguments of counsel, and so on.

The property consisted of about 43 acres of land. It was appropriated by the state for military purposes, used as an extension to camp grounds in this district, in accordance with the act of the State Legislature, becoming a law in April, 1914.

In the testimony presented, which covered a total of 2,700 pages and included the remarks of thirty-eight witnesses, it was set forth that the land contained about 3,000,000 tons of fine clay suitable for the manufacture of high grade products, including ornamental brick, rough and smooth face brick,

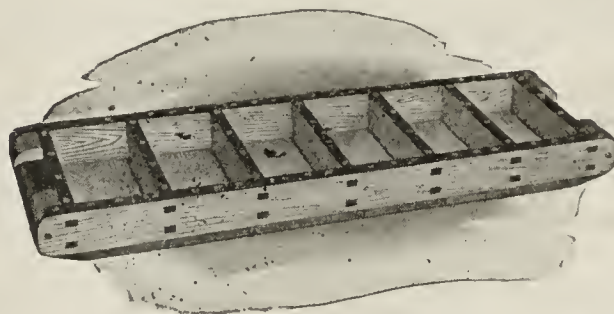


Use of Hollow Tile in Building Operations Is Increasing Steadily in Louisville, Ky. The Accompanying Photo Shows a Fairly Good Sized Residence in One of the Finest Sections of the City, Overlooking Cherokee Park, Which is of Hollow Tile Construction and Will Be Veneered With Brick. However, the House is Still Far from Fireproof as the Gabled Roof Is Filled in With Wood, and the Rafters, Flooring, Supports, etc., Are Also of Pine.



No. 3 Barrow

Above is illustrated one of our leaders. We have sold more Barrows and Trucks in the past year than at any other time in our history. Why? Try them and you have the answer.



The Famous A C Co. Brick Mould



Write for Catalog and Prices.



**The
Arnold Creager
Company**

New London

Ohio

THWING

HIGH RESISTANCE MULTIPLE RECORD

PYROMETERS

**Save Fuel
Save Labor
Increase Output
Improve Product**

Here's the proof:

"Our twelve Thwing Pyrometers save us fuel and give us a more uniform product."—Riverside Portland Cement Co., Riverside, Calif.

"The Thwing Pyrometer is a paying investment and a valuable asset."—American Terra Cotta & Ceramic Co., Terra Cotta, Ill.

"We find Thwing Pyrometers very valuable and would not care to do without them."—Atlantic Terra Cotta Co., Perth Amboy, N. J.

"With the use of Thwing Pyrometers we have increased our production, saved fuel and labor, and built better pavements."—Cleveland Trinidad Paving Co., Cleveland.

"The use of Thwing Pyrometers has enabled us to save time and fuel with better results in the finished product."—Hocking Valley Brick Co., Logan, Ohio.

"Dr. Thwing's instruments enable us to burn our brick in several hours less time and with considerably less fuel than before installing."—Hayes Run Fire Brick Co., Orviston, Pa.

"We have never installed an appliance that has given more satisfaction and as little trouble as the Thwing Pyrometer."—O. Zimbal Brick Co., Sheboygan, Wis.

"My experience after thirty years is that Thwing Pyrometers are indispensable."—C. H. Eardley, Supt., St. Lawrence Brick Co., Ltd., La Prairie, Canada.

The details of an installation under given conditions involve individual engineering in each instance, so each outfit is sold with our full co-operation in choice of instruments, and with instructions for making the equipment thoroughly satisfactory.

Ask for our engineering advice, or at least write for a copy of our book on pyrometers.

THWING INSTRUMENT CO.
3347 Lancaster Ave., Philadelphia, Pa.

56

hollow brick, fireproofing products, hollow block and tile, etc. Also, an aggregate of over 400,000 cu. yds. of granite, suitable for structural purposes, and for the manufacture of crushed stone and building block. It was shown that the clay was of a quality equal to any in the east, and as a slip clay was as fine as any to be obtained in the United States. The testimony also stated that in addition to adaptation for making products under the dry press method, the clay was also suitable for use by the more economical machine methods.

Among the prominent witnesses heard at the various hearings were: Professor C. F. Binns, Dean, New York State Clay-Working School, Alfred University, Alfred, N. Y.; Professor George H. Brown, director, Department of Ceramics, Rutgers College, New Brunswick, N. J.; Robert W. Jones, Assistant Economic Geologist, State of New York; William K. Hammond, New York, president of the Hammond Brick Co.; Robert L. Findlay, vice-president, the Hay Walker Brick Co., New York; Charles A. Bloomfield, president, the Bloomfield Clay Co., Metuchen, N. J.; David S. Plummer, former manager of the Philadelphia & Boston Face Brick Co.; Michael J. Powers, superintendent, Philadelphia & Boston Face Brick Co., Milltown, N. J.; Robert W. Lyle, president, Standard Hollow Tile Co., Piscataway, N. J.; Frank DeNoyelles, president, DeNoyelles Brick Co., New York, and secretary of the Greater New York Brick Co.; Professor Harold A. Fales, Columbia University, New York; and Frederick Steele, clay tester for the American Clay Machinery Co.

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Warning! Don't Show This to Your Workmen

We have received a very amusing communication from A. DeGallaix, a former Belgium manufacturer of ceramic products who is now located in Connellsville, Pa. He states in his letter, "It will be perhaps interesting for your readers to know of the new rules accepted for the next summer by the Belgium brick plants making building brick by the Flemish system. Following is a translation of an article which appeared in a Belgium newspaper relating to the new dispositions arranged with the workmen. You will notice that certain terms have no chance at all to be adopted in 'dry' U. S. A.

"The secretary of the Regional Section of Brickmakers has sent to the list of the 'Central Corporation of Building Workers,' a circular to every brick plant owner concerned, fixing the uniform prices for workmen for next summer. The wages to be paid for each thousand bricks made by repressing are: twenty francs (\$4.00) prewar when laid on a flat ground offering some difficulty; twenty-five francs (\$4.80) when laid on a ground not so favorable; or another. For every day lost because of lack of material in any way whatever, wages will be paid at the rate of six hundred brick per day. In a case where the whole gang is busy in other works, the wages will be paid at the rate of three francs (\$.60) per hour per man.

"The payment of the wages will be made on every Saturday. The brick makers will receive ten francs, 75 centimes (\$2.15) per thousand brick burned, 225 liters of beer (1 liter equals 1.05 American quarts) per one hundred thousand brick manufactured and 150 liters of beer for the same quantity burned.

"As additional dispositions the brickyard owners must pledge themselves to furnish housing with kitchen utensils sufficient and appropriate and to establish a bed and blankets for the use of each worker. The brickmakers furthermore require the syndical agreement that they will not employ any man not affiliated with the union. For this purpose the syndical card must be required by the brickyard."

"The newspaper giving the above particulars adds, 'the brickmakers are not exacting too much as one can judge ac-

According to the present time, where the housing crisis prevails with such an acute intensity. One might wonder how much the price of brick will be after the next campaign and what proprietor and contractor will be fool enough to build houses at the prices which brick will be sold. The inhabitants of the devastated regions would have to wait a considerable while before seeing their houses rebuilt."

We fear that should our American workmen read this item there would be a general exodus of clay plant labor from local brick plants, whereas Belgium would become well supplied.

* * *

Why Government Ownership Necessarily Fails

Speaking quietly, without rage and prejudice, can anyone tell why it is that all Government departments, in all countries, are slow, wasteful and incompetent?

There must be some basic reason for this, as the individuals in these departments cannot all be inferior to the individuals in private firms.

Almost invariably an able man becomes disabled when he is placed in a Government department.

He becomes timid, procrastinating, non-committal, evasive and unprofitable. He becomes a mere chattel of routine.

Why is this?

The fact seems to be that a man simply cannot be competent in a Government job, for the following reasons:

(1) There is no payment by results. There is no piece-work. There is no profit-sharing. A man gets as much for doing badly as he does for doing well.

(2) There is no fear of discharge. A man may be transferred, but, as long as his conduct is satisfactory, he cannot be discharged for incompetence. Any sort of a fool can hold a job forever in the civil service.

(3) There are no profits to be made. There is no possibility of bankruptcy. If the department doesn't pay—very well. The Treasury has plenty.

(4) There is no danger of losing customers. A Government department does not depend upon its customers, so that it has no incentive to be quick and courteous and obliging.

(5) The main thing is accuracy, not success. A Government employe has simply nothing to do with success. His one aim is to avoid mistakes. The less he does—the fewer mistakes.

(6) Time is of no consequence. As all Government employes are made into clerks, they come to have a clerk's disregard for time. To clerks, as to lawyers, a delay is a relief and a comfort, the more the better.

(7) The work is impersonal. There is very little responsibility in a Government office. The clerks have arranged a system whereby nobody is to blame, no matter what happens.

(8) There is no competition. A Government department is always a monopoly. If it were not, it would be soon thrown aside. It has no competitors to battle with, and it can take its ease and do as it pleases.

(9) Routine is put ahead of service. In Government departments all the workers (if I may use the word) are tied with red tape. They are all the slaves of a system of procedure.

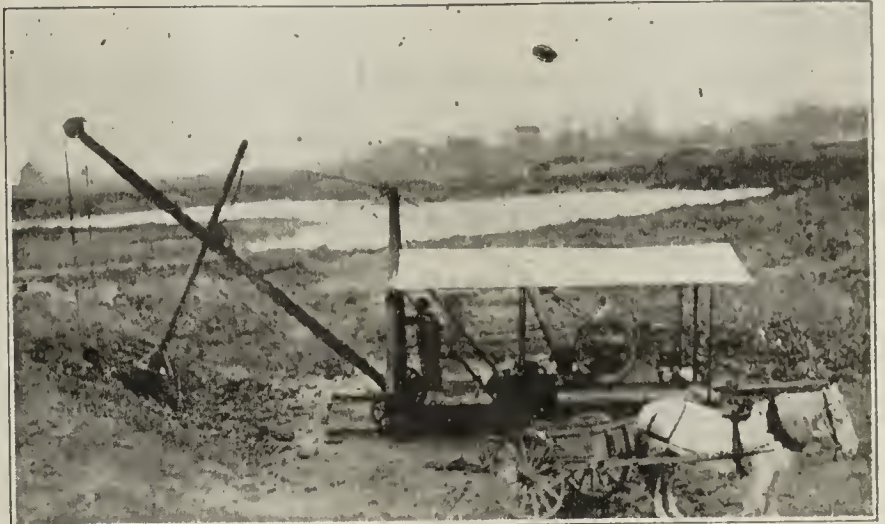
(10) There is no enthusiasm. If a man stays in a Government job long enough he becomes mummified. He loses all the energy and joy of living that are so necessary to efficiency and success.

These are a few of the reasons why nationalization always has failed and always will.

Just put yourself in the place of these poor Government automats. No matter how able you are, how could you be efficient if you had—

No hope of profits;
No fear of failure;

AT LAST! A CLAY DIGGER for the SMALL BRICK or TILE PLANT



Positively Dependable One Man Excavator Light and Economical

Designed especially for the average brick or tile plants that have not sufficient capacity to warrant the installation of heavy high priced excavating machinery.

This excavator is operated by one man, is equipped with a $\frac{3}{8}$ cubic yard bottom dump dipper and a 12 H.P. kerosene or gasoline engine.

The extremely low operating cost and the small expense involved for installation and upkeep combined with the first cost, make this machine an economical and very desirable adjunct for brick and tile yards—WILL SAVE ENOUGH IN LABOR TO PAY FOR ITSELF.

We furnish with each excavator sufficient 40-pound rail cut in 4 foot sections and fitted with cross ties to carry the machine in its operation. Rail sections are easily handled and the excavator can be moved ahead under its own power to any part of yard or pit in a minimum length of time.

You have been waiting for just such a light, economical digger as this, Mr. Clay Plant Operator. Think what it means to have a digger always on the job and plenty of material on hand at all times in helping speed up production and reduce costs.

Write for complete data on the
Low Priced Excavator today

BAY CITY DREDGE WORKS
2619 Center Ave., Bay City, Mich.

Join your belts so they stay joined. Whatever kind or make of belt you have—whatever its material, its width, its thickness, or its length—Crescent Belt Fasteners will insure its best service and longest life.

Write to our Brick Mill Service Dept. for full information how Crescents will help you.

Crescent Belt Fastener Company
381 Fourth Avenue, New York

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CRESCENT
Make Good Belts Give Better Service
BELT FASTENERS



No competitors;
No customers;
No reason to hurry; and
No danger of being found out.

Nationalization is not only a destroyer of trade and commerce. It is not only a coral reef built across the harbor of prosperity.

It is worse. It is far worse. It is a destroyer of men. It takes an able man and grinds him down until he is a clerical drudge.

It lowers the spirit and hardihood of a nation. It pauperizes. It dulls the mind and benumbs the feelings. It changes lions into rabbits. What could be worse?—*Herbert N. Casson, in "Efficiency Magazine" of London.*

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To Develop Commercial Treatment of Lignite

At least \$300,000 is to be expended under the direction of the Bureau of Mines in an effort to develop a commercial treatment for lignite. An experimental plant is to be erected at New Salem, N. D., which will be able to carbonize at least one hundred tons of raw lignite per day and provide for the complete recovery of the liquid and gaseous by-products and for the handling of the char, which it is planned to make into briquets. Of the sum to be expended, \$100,000 is appropriated by Congress and \$200,000 is to be furnished by a subsidiary of the Consolidated Lignite Collieries Co.

It was the intention at first to put the experimental plant in the Texas lignite field, but the development of oil and gas in that region interfered with the market for the gas which would be produced in connection with the treating of lignite.

The Bureau of Mines is to provide the plans and specifications for the carbonizing and briquetting plant; maintain active supervision and oversight over the construction and operation of the plant; and furnish the necessary technical assistance. The cooperating concern has agreed to provide a satisfactory site on its railway spur; to install certain portions of the equipment; to furnish the necessary lignite and other raw materials; to sell the products; to furnish the labor; and to conduct the necessary business activities of the undertaking.

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"We Mind Our Own Business"

That was the declaration of a certain business man when called upon recently to explain the non-delivery of an order accepted for "prompt shipment" many months ago. He prefers to follow his own selfish inclinations and the line of his own selfish interest, regardless of the rights of the customer, the other party to the contract.

"We mind our own business." This in effect is what the dealer said who did not settle for the material he bought in accordance with the terms of sale. He paid for it when he got ready and refused to pay interest for the overtime. He did not stop to think what the consequences would be if his practice were generally followed.

The "mind our own business" idea is close to Anarchism, Bolshevism, and all the other isms which are trying this country so sorely today. It smacks of lawlessness and chaos. It is practiced by men who know that certain customs and rules of business procedure have been established for the good of the industry, and who ignore the rules whenever they can INDIVIDUALLY profit.

The "mind our own business" conception is absolutely contrary to the established order of things. It is destructive of law and order and conservative business. It is the duty of all honest, law-abiding clay products manufacturers to join with the association in smoking out those individuals who cling to this idea, whether they be manufacturers or retailers.

Let us play the game of business according to the rules.

MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories
and Detailed Announcements that Our Ad-
vertisers Believe Will Interest Our Readers

Advantages of the Davis Blaster

Every clay products plant manager who has ever done any clay bank blasting knows that it is very important to have a blaster that can be depended on one hundred per cent. of the time. Otherwise a great deal of good explosive is wasted and sometimes accidents occur.

There are particular reasons why charges should be fired by an electric method, any one of which more than justifies its use. The blaster is at a safe distance from the shot when he fires it. He can time the blast to the second and no time is lost waiting for the fuse to burn. Hang fires and misfires are practically eliminated.

For blasting in wet work the electric method is far more reliable than any other. This is especially true with the new Davis No. 1 blaster that is now supplied by Atlas Powder Co., of Philadelphia, Pa. Moisture cannot penetrate an Atlas Electric Blasting Cap nearly so quickly as it can a blasting cap crimped to fuse. By firing several shots simultaneously a greater amount of work is done by the explosive—one charge helps the other—and less explosive is required than when the charges are fired singly by cap and fuse.



Davis No. 1 Blaster.

The dimensions of the Davis No. 1 blaster are 2x4x4½ in. It weighs (net) but 3¼ pounds. The outer case is a seamless brass tube, heavily nicked, with aluminum top and bottom plates. The machine is substantially built to stand hard service. A leather strap (removable) makes carrying easy. The key by which the Davis No. 1 blaster is operated is a separate part of the machine and may be kept in the possession of the shot-firer, preventing the operation of the machine by any other person. This is an important safety feature.

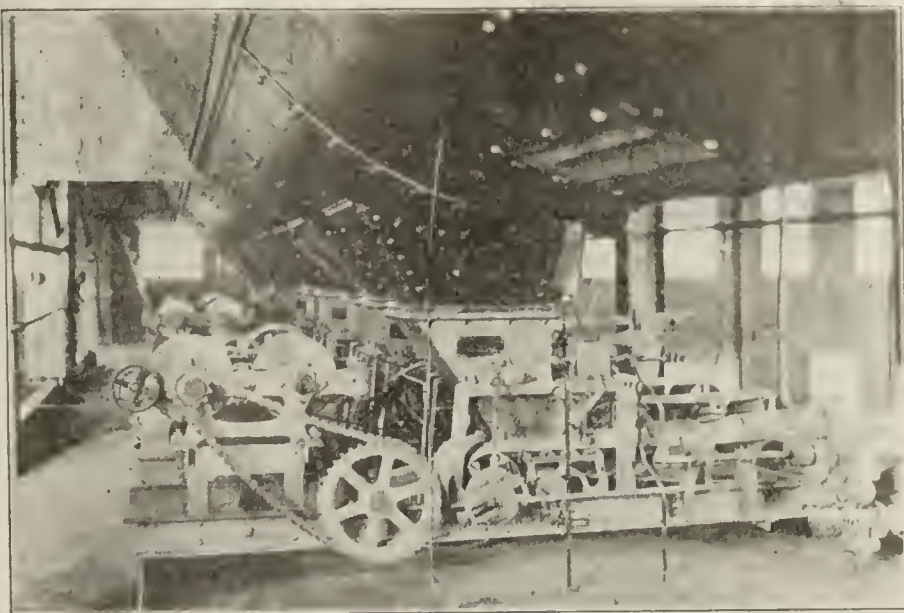
Atlas Powder Co., 140 N. Broad St., Philadelphia, Pa., will be glad to furnish further particulars regarding this equipment.

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Link-Belt "Lettgo" Mechanical Overload Release

An effective "safety-first" mechanical device that will instantly disengage a drive when the load exceeds a predetermined point, has been developed by the Link-Belt Company. It is known as the "Lettgo" Mechanical Overload Release. It is especially adaptable for elevating, conveying, and power transmission machinery.

The "Lettgo" will automatically disengage the driving from the driven machinery if the load exceeds the fixed amount, thus allowing the driving motor or other source of

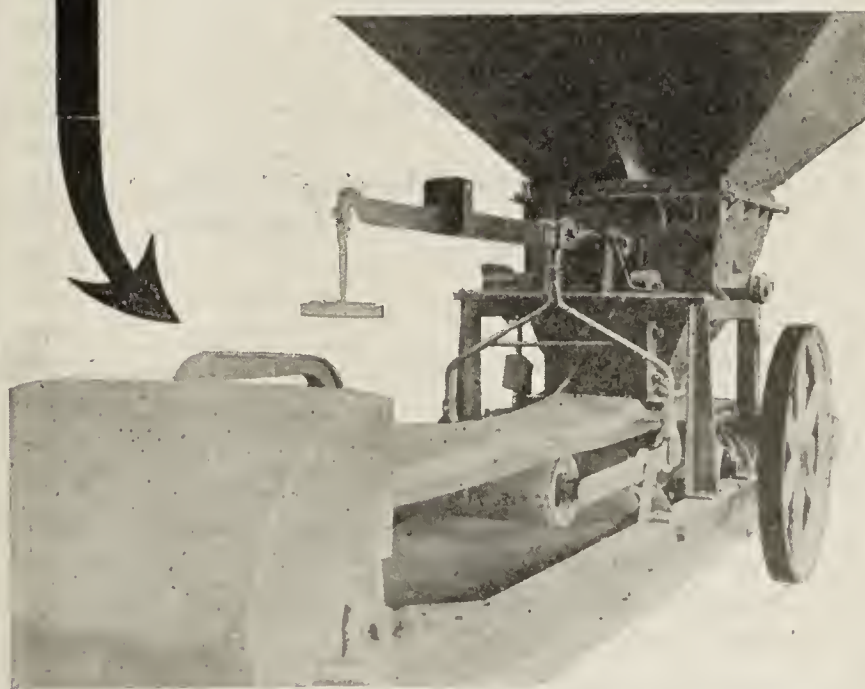


Balance the accuracy of the Schaffer Poidometer against the undependableness of your pug mill man.

The SCHAFFER weighs with an accuracy of 99.75% and at a rate of 1½ to 21,000 pounds a minute, according to size and adjustment. Positively weighing and measuring without loss or waste.

It eliminates cracked ware in the dryer on account of the improved temper of the column.

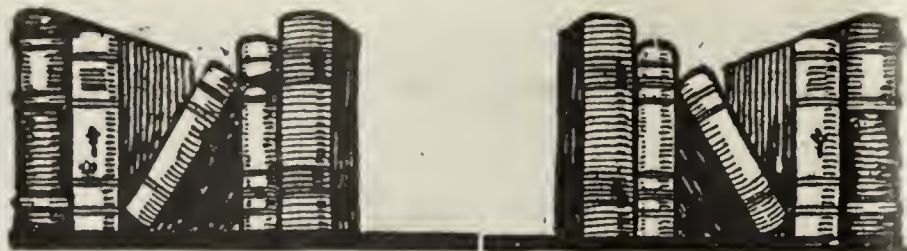
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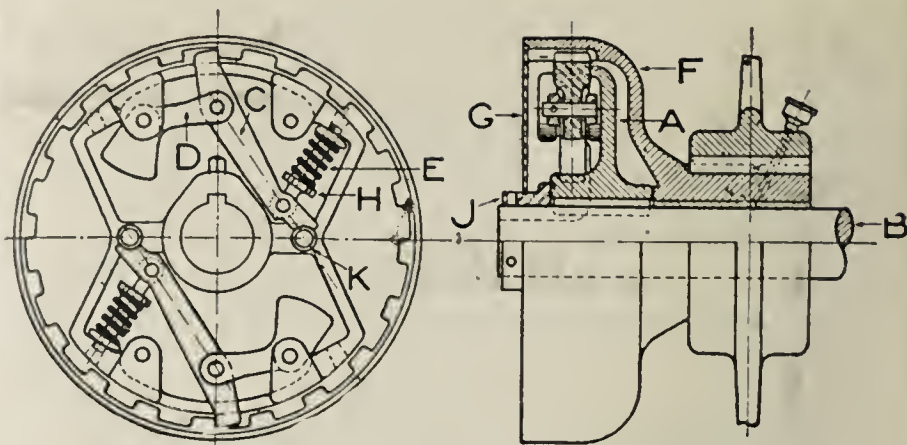
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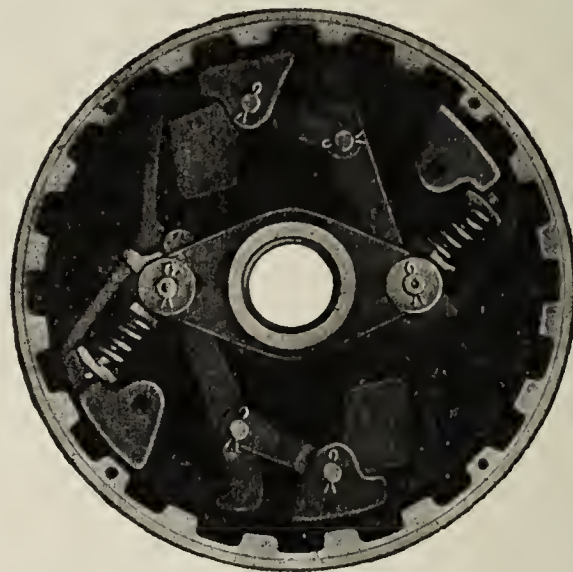
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Diagrammatic View, Showing Construction of Link-Belt Overhead Release.

power to run free and prevent damage, due to the inertia of the motor armature or other high-speed moving parts. The construction of this device is such that it will release whether the load is gradually or suddenly applied, but it can be set so that it will not trip from jars or shocks.



Lettgo Mechanical Overload Release with Parts in Position for Driving.

The "Lettgo" is symmetrical, and can be assembled to operate in either direction. It can be adjusted for tension, so that it will operate for any desired overload. The mechanism is entirely inclosed and can be packed with grease for lubrication purposes. Being positive in its action and easily reset, the Link-Belt "Lettgo" has distinct advantages over the "break pin" or similar devices.

✕ ✕ ✕

"See the American First"

L. Haigh, head of the kiln department of the American Clay Machinery Co., has returned from a business trip to England. Mr. Haigh has a lot of ideas on fuel saving and better quality of burning that ought to interest all clay workers.—"American Clay Magazine."

✕ ✕ ✕

C. H. Horton, manager of C. H. Horton Co., is slowly recovering from a recent illness which has confined him to his home.

✕ ✕ ✕

Fate-Root-Heath Company, Plymouth, Ohio, announces the change of their western office, S. Geijsbeek, representative, from Portland, Ore., to 635 Burke Building, Seattle, Wash.

✕ ✕ ✕

"The Clark Tractor for Factories, Foundries, Industrial Plants" is the title of the latest pamphlet issued by the Clark Tractor Co., Chicago, Ill. It shows photographs and specifications of all models, illustrating the different uses to which they can be put.

✕ ✕ ✕

The Gandy Belting Company, Baltimore, announces the appointment of Fielder I. Schilling, Jr., to the position of general sales manager, succeeding Chas. H. Dankmeyer, resigned. The recently opened Chicago Branch at 549 West Washington Street will be under the charge of H. Milton Michel, who comes from the New York Branch, and Robert Crane will be in charge of the New York Branch at 36 Warren Street.

BRICK and CLAY RECORD

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The EDITOR'S CORNER

At the Mercy of the Coal Profiteers

"MARKET CONDITIONS are good for all we can make," writes a drain tile manufacturer, "but the coal condition is very bad, with all kinds of prices attached. We have been promised relief, but things seem to be getting worse, instead of better. **What can be done to relieve the situation and so we can get coal at a fair price?** We are certainly at the mercy of the profiteers."

For some time, we have been conscious that fuel **prices** and **supply** have been the greatest grief which the clay products manufacturer had in these times of many business sorrows. Word came to our ears recently of the case of a sales-manager or chief clerk of a certain coal company in which the young man complained bitterly of his superior's policy. Said he, in substance: "We are setting prices on coal which we feel are fair, and in most cases, what, in our opinion, is all the traffic will bear, but the 'old man' is crying for still higher and higher prices, until we are ashamed to take the money." This man's sense of fairness entirely overcame his loyalty to his company, and so he gave vent to his emotions.

In this connection, an editorial in a recent issue of "The Black Diamond," a well known coal weekly, is exceedingly interesting. It reads, in part, as follows:

"Again the 'Black Diamond' is compelled to take notice of the unwarranted high prices which a small minority of operators is charging for coal. We hear of \$10.00 and \$11.00 prices being demanded and obtained for coal going into the off-shore trade. There is no condition that would justify such a practice.

"We do not like the word 'profiteer', but an operator who takes advantage of a critical situation, such as the one which obtains today, to fatten his purse at the expense of the public is a profiteer pure and simple. The wholesaler who uses the same situation to obtain a one dollar margin is in the same class."

Coal conditions with regard to profits and prices must be pretty rotten when a journal that has been ultra-loyal to the coal trade makes a statement such as that.

It has been truly said that the profiteering investigations of a certain well-known attorney general have proceeded no further than the scare-heads of metropolitan newspapers.

The obtaining of coal justice and the securing of relief from such oppression as seems to exist at the present time with regard to coal profits is a matter for joint action on the part of the clay products manufacturing industry. In this, as in many other instances, we come back to the ever-present necessity for that **ONE BIG CENTRAL COMMITTEE OF ALL CLAY PRODUCTS ASSOCIATIONS.**

Remember the story about the man, his sons, and the bundle of sticks. One stick is easily broken by the weakest but the bundle resists the efforts of the strongest. **In union there is strength.**

* * *

No Depression In Sight

THERE SEEMS to be some let-up in retail buying. Distributors who sell to consumers report increasing opposition to sales. Manufacturers who make clothing, textiles, etc., are cutting down on working hours on account of diminishing business. Credits have been tightening for some weeks. Now comes a report of building operations for May to the effect that new projects show a decrease of nineteen per cent. over the previous month.

These developments may lead to the question: Has the long expected period of readjustment set in? And what are the prospects for future business in the clay products manufacturing industry?

First of all, a prominent authority on building statistics gives as his opinion the statement that this slackening of activity can scarcely be more than temporary. Its principal causes are said to be four, namely, disputes

over adjustments in the wage scale, principally in Chicago and the Central West; freight congestion which is felt principally in the East; the increasing difficulty of financing building operations, **and the belief that prices of materials are due to drop.**

This information would seem to discount the importance of the reported decrease in building operations during May as compared with April.

The future for business in the clay products manufacturing industry, we believe, depends largely upon the state of production. A glance backward over recent years reminds one that the bane of the business has been over-production. It is not long since the bitter complaint was made, one manufacturer of another, that he wanted to make and to sell **all** of the brick used in the country. Yards piled high with stock were a common sight and "dumping", as it was called, was an every-day practice.

That no such condition exists at the present time, is self-evident. Manufacturers of clay products have been struggling for months—in fact, ever since the government removed the war-time restrictions—to get back to normal output, but to date, for the most part, they have been unsuccessful. While there is not a crying shortage of burned clay material, except perhaps here and there, there is not an over-supply. Most manufacturers are living from hand to mouth so far as the stock yard is concerned. In some cases there are large stocks, but where these exist it is because of a lack of transportation rather than demand that the brick or tile are at the plant. They are sold, but cannot be moved. No cars.

We cannot see how prices of clay products can fall or how business can become depressed in this industry, unless building operations should become paralyzed, and this is almost as remote as can be imagined.

There is a tremendous housing shortage in nearly every part of the United States. More buildings, and still more buildings, is the cry. The houses that will not be built this year, must and will be built next year.

Depression may be due in some industries but not in the manufacture of clay products, or for that matter, in any other building ma-

terial. Silk shirts, high-priced clothing, expensive shoes, etc., may be due for a fall, but not well-burned clay.

The problem is production. To solve it, we must have more coal, cars, men and materials. There is enough business in sight to take care of every well established plant. The problem is to supply the demand.

* * *

Labor's Inning

THE LAW of supply and demand is an economic fixture. One expects to be governed by its operation. When the demand is heavy and the supply is short we rather expect prices to be high; on the other hand, when the reverse is true, we take the fact of low prices as a matter of course.

Without reference to exact statistics, we venture to say that most of us doing business at the present time can hardly remember when there was such a demand for labor with the supply so scant. Everybody seems to have more work than they can possibly do and consequently the demand for men is great.

Because there are two jobs for every man, however, should not set aside the square deal. When a man undertakes to work for an employer, he, in effect, agrees to perform his task and do work of a given standard in a prescribed period of time. How he can be honest and do otherwise is an unsolved riddle. If this be true a great many dishonest men are working for a day's pay. Soldiering, loafing, deliberate inefficiency, and the like, are a common condition on many clay plants in America. Many workingmen are taking advantage of the present situation and are doing as little for as much as they can get.

Many employers have done likewise in the days gone by. Perhaps the present condition is a needed lesson in some quarters.

Where the employer has been accustomed to give a square deal and the employe has been encouraged to do a day's work for a day's pay, there seems to be little difficulty at the present time, altho wages are on a higher level.

There are exceptions to the rule, of course, but

(Concluded on Page 1316)

TOUCHING *on the* VITAL SUBJECT *of* LABOR

Significant Points About the Handling of Labor as Brought Out in a Questionnaire Answered by Many Drain Tile Manufacturers, and a Splendid Address on Labor by Charles A. Eaton

HOW MAY WE INCREASE the efficiency of labor? How can we prevent idleness and delinquency during working hours? What is the best method to secure real cooperation from labor? What should we do to create an interest for them in their work?

These questions voice the sentiment of a large number of drain tile manufacturers who replied to a questionnaire sent out recently by *Brick and Clay Record*. They are very formidable questions, and employers, both large and small, throughout the entire country, have been endeavoring during the past few years to find a solution to them. As everybody knows, conditions in various localities vary greatly and the success with which manufacturers have been able to meet the labor problem is quite indeterminate.

While we do not claim the ability to prescribe a remedy, we do believe that the article published in "Printers' Ink" recently, which contained a portion of the address of Charles A. Eaton, associate editor, "Leslie's Weekly," before the Periodical Publishers Association, together with the statements made by drain tile manufacturers in the questionnaires returned to us, contain some good suggestions with regard to the handling of labor.

SEVERITY OF LABOR SITUATION

First, let us quote expressions which show the extremely serious labor conditions that exist on some plants. An Iowa manufacturer says in regard to labor: "Poor, strikes and extreme unrest. Our men are giving about forty per cent. of efficiency based on prewar labor. Have increased wages one hundred per cent. and have muzzled and gagged our foremen." An Illinois tile maker says, "Labor conditions are the worst we have seen for years. We have not one-half enough men and they are only such that have been with us for years. To get more we have been very unsuccessful." This one is from Indiana: "Labor is scarce and high." Here's what a Michigan manufacturer says: "Poor—can't get anything out of day labor. Piece work satisfactory altho hard to get them to work steady on piece work" Here's how Ohio feels about it: "Very poor in spots. Trying all schemes under the sun to obtain and hold labor. The auto industry in Michigan is playing havoc."

Just to show you that labor scarcity is not confined to several states, a manufacturer in Georgia says, "Labor is scarce. The apparent high wages being paid in the North keeps taking labor away from Georgia." The following statements merely emphasize the labor conditions with many drain tile manufacturers: "Labor conditions are not good. We pay the price to obtain labor." "Bad. Strikes on in our county including all clay products plants. Secure what help we can by advertising and working ourselves." "Severe shortage of labor. Our plant is outside of the city limits. We have to send a large truck into the city every morning into the laboring men's residential district to pick up enough men and bring them back after working hours." "Labor hard to get and

very poor quality." "Labor conditions are bad—beyond explanation."

WILL NOT TOLERATE CLOSED-SHOP

Take particular note what this Iowa drain tile manufacturer says with regard to labor. "Very bad—we are down since April 10 combating a demand for closed-shop and recognition of union. We will remain closed until we can operate our plant on the open-shop or *American plan*." Clayworking centers in other sections of the country are also experiencing the same trouble with regard to the recognition of a union among clayworkers. Our comment on this point is best expressed by Mr. Eaton's address which is incorporated in this article.

There are also drain tile manufacturers who are not finding conditions quite so unfavorable as the tile men quoted above. Perhaps, the reason for this is that partially successful attempts have been made to meet the labor problem in some manner or form such as is indicated in the statements of the manufacturers. For instance, a Washington tile producer states: "When weather conditions are favorable we can get plenty of help. Men will not work in winter. We have just completed a modern hotel to house one hundred men. This hotel is equipped with shower baths, drying room, billiard tables and nice living rooms." One from Kentucky states, "Our labor is short and hard to hold. We have advanced wages and furnished houses without rent charges." Here's how an Ohio drain tile manufacturer is finding the situation. He states, "The labor proposition is difficult to describe. Labor does not know just what it wants. We have entered into a profit-sharing contract and it has worked well so far." An Alabama manufacturer has this to say, "Labor supply as to number is not bad. Inefficiency of labor is a serious handicap. We are holding them by paying good wages and allowing them to do about like they want to."

HOLDING LABOR UNDER DIFFICULTY

This is from a Nebraska manufacturer, "Not much change from last year. Very independent," and from Tennessee we get this: "We are getting labor at a very high price." The following are statements from manufacturers from various states: "Labor is not efficient as compared with former years." "Labor conditions are about the same as usual for the past two or three years. Paying more money all the time." "Paying big wages." "'Rotten'. Can get plenty of men by paying the high prices but unable to get production because of the present attitude of labor to loaf on the job." "Labor is asking more than double the pay and we get about half the efficiency where they are working by the hour. The only relief seems to be to put them on piece work, which we are doing as much as possible, such as mining clay, setting in kilns and unloading kilns. In the mill we run by the hour as the work can be crowded on to them." "Bad. Paying them as much as my business will afford. Allowing them as good working conditions as I can." "Labor is scarce. We are paying \$4.00 for nine hours for common labor." "Labor conditions are not

very good and the hot weather seems to get the men out of the notion to work. I suppose that we have to do what everybody else is doing—keep on advancing wages, but still that does not seem to satisfy.” “We experience the usual labor conditions—shortage and inefficiency of labor. We are working piece work and obtaining good results.” “Plenty of labor but poor stickers and one cannot get the service one did in years past.”

SOME SEE AN IMPROVEMENT

“As to labor conditions there seems to be an unrest because of the fact that wages are high. The laborer is looking for big money and no work. To hold labor we are doing just like every one else. If you pay the price and keep your mouth very near closed, you can hold them a while.” “Labor is tight. We have built several houses and leased several more. These we rent at a low charge to our workmen and have a contract with them which calls for their vacating the premises in case of the employe leaving our concern. Due to the house shortage in this city this has helped us considerably in holding labor.” “Labor conditions are still in bad condition but better than in 1919. We work on a piece work plan and to stimulate production pay a bonus. It seems almost impossible for us to get over seventy-five per cent. efficiency out of our labor.”

THESE TILE MEN ARE BETTER OFF

It is a pleasure to get this optimistic tone from drain tile manufacturers located in the same states as the manufacturers quoted above. Somehow or other these manufacturers must have run across the secret of handling labor and perhaps in their reply there is indicated some clue to the solution of the labor problem. We quote them as follows:

“Normal. Better than a year ago. Playing fair with men. Asking a reasonable day's effort in return for just compensation and our men are on their honor to respond.” “Labor conditions have improved somewhat over 1919, but yet are not up to standard. General wage advances have been made and the working day is now eight hours. Working conditions are maintained at a high standard.” “So far we have not had much trouble to obtain labor owing to our own process of making. We only hire four or five men steady. We can get all the labor we want at \$3.50 a day.” “We have no trouble to hold our men. We treat them with consideration.” “Labor conditions are good. To hold labor we use them as human beings should be used and pay them a fair day's wage.” “Labor is hard to get, but not as bad as in some places.”

HOW DOES HE DO IT?

“We are paying \$2.50 per day for common labor.” “I'm very well satisfied with labor conditions. No more trouble than any other year, only that I pay more.” “We have all the help we can use and our men are satisfied as we pay good wages.” “Labor conditions are more or less unsettled, but are having very little trouble in holding labor by making it as convenient for them as possible.” “Our labor conditions are better than they have been for the last four years. We are able to get all of the labor we can use at the present time.”

“At our plants we have no labor trouble at all, but have all the hands we can use. My labor conditions are a little out of the ordinary, as most of my hands have been in my employ for ten to twelve years, during which time I was manufacturing charcoal, and are continuing with me in the tile business. I make no special efforts, nor offer any extra inducements to secure or hold my hands. They are simply satisfied and stick. They are an exceptionally good crew and it is needless to say that I am satisfied. I pay current wages of this section, no more, no less. The labor shortage affects me only as to the difficulty of the farmers having trouble in obtaining help to lay tile in the ground, and consequently hampering my sales. In general, labor conditions thruout

this section are simply ‘fierce’ and all lines, farming included, are suffering greatly because of shortage.”

HOUSING SEEMS TO AID

“Labor conditions—reasonable. Get men that show an interest in their work, with ability to accomplish and show appreciation as an employer of good services.” “Our labor conditions are satisfactory. We are on the same footing and basis as our men. Our doors and ears are always open to them. We know their conditions and they know ours. We are careful to be loyal to them and expect them to be loyal to us and they are. Of course, we occasionally get one who will not be reconciled and we talk the matter over plainly and honestly and if he don't care to be one of us we ask him kindly to secure labor elsewhere where conditions are more to his liking. Our plant is a small affair working only about ten to twelve men.”

“We have not suffered very much from labor shortage. We house our men which we think is the best solution to the labor trouble. Then, too, we keep them busy eleven hours a day, which prevents them from having too much idle time to study mischief.” “Conditions much better than last year and improving a little all the time.” “Nearly normal. Our factory is located at Buffalo, Iowa, a small town ten miles south of Davenport, Iowa, and we are dependent upon the resident labor. Most of our men have been working for us for many years. We have started a bonus system on May 15, paying the men a bonus above a minimum production in order to speed up labor and obtain our capacity.” “Labor supply is fair but much better than last year. We are having a great deal of our work done by contract, which means high wages, more work done and better satisfied employes.”

After reading the above statements from drain tile manufacturers in all vicinities, we are more impressed than ever of the true ring to the tone of Mr. Eaton's address as is printed herewith:

ADDRESS BY CHARLES A. EATON

“It is only fair to say that low production is often due to bad management and unskillful engineering. But in my judgment, the chief cause of a diminishing production is spiritual. It is due mainly to ill will on the part of the workers and until this ill will is changed to good will we shall never see a general increase of production.

“How then can the American workingman be brought to see that he must increase his output, if he is to avert ruin for his nation, his family and himself?

“I have no new scheme to exploit. I believe that there are certain practical truths which never change thru the ages, and if we can find a way to apply these practical truths in industry, we shall get the results that we desire.

“The great fundamental need of industry in America today is leadership and education.

“The neglect or denial of this principle is the original cause of most of our labor difficulties. The absentee employer has been even worse than the absentee landlord in his evil influence upon social conditions. Employes in great industries have too long been left to shift for themselves. They knew only the foreman who in the good old days before the war was usually hired to do the dirty work for the big boss. The whole industrial relationship was saturated with suspicion, ignorance, stupidity, fear and greed. It speaks well for the essential worth of human nature that under such conditions things are no worse than they are.

“Humanity is divided into leaders and followers. One is as natural and necessary as the other. The masses of men in industry crave leadership. Not finding it where they had every right to expect it to be found, among their employers, they turned to their own class for leadership. And this class leadership, while it has done much for them in the way of

improved conditions of labor and increased pay, has failed on the side of the spirit.

"One of the most hopeful features of the situation is the change that has come over the big men in industry during and since the war. Great employers like John D. Rockefeller, Jr., Charles M. Schwab, George Eastman, the McCormicks, and many others whom I might name, have adopted a new attitude and have already taken their place as the recognized leaders of the men in their employ.

"Such leadership involves grave responsibilities. But we have nothing to fear from responsibilities fearlessly and fairly faced. It is only when duty is denied or ignored that there is cause for fear. And if this movement spreads, as I believe it will, the professional deliverer of the workingman from his oppressor, the employer, will be out of a job, a consummation devoutly to be wished. True leadership is a spiritual thing and when the worker finds this leadership and learns to trust and follow it, we shall have taken a long step forward in solving the problem of production.

THE LACK OF EDUCATION

"Most of our industrial difficulties are due to ignorance. The employer and the employe do not know each other; nor do they understand the laws which govern industry as a social service. Our urgent need is education. All that normal men need is to know the truth, and the truth shall make them free.

"The trouble with most men who slack on their jobs is nowhere that you can reach with money. It is in the mind. If you change the mind you will get results that money cannot buy. To raise wages without providing this education is simply to aggravate the evil.

"If we wish to increase production we must have a wise, nation-wide campaign of education inside and outside industry.

"I venture to suggest a few of the subjects to be studied in such a program of education.

"1. Every man in a given industry requires to be taught all about that industry. The management must learn the problems of the worker—economic, social, physical and spiritual. And the worker must be taught the problem of finance, of buying and selling which confront the manager. Each must be brought to see the business in its entirety as a great, complex unity in which every man from the big boss down has a place of vital importance.

"2. We must all be taught the meaning of wages and profits. Business is a public service. Profits are paid the investor by the community because his investment produces or helps to produce something which the community needs and wants. Both profits and wages are paid out of production. The better the management and more intelligent the work the larger the production. And the larger the production the greater the share of labor and capital.

"This seems simple but very few understand or believe it. And this is why the new educational systems that are springing up in various manufacturing plants are proving to be the best investment possible for all concerned.

MAN LIVES FROM HAND TO MOUTH

"3. We need desperately to be educated in the reasons why production must be increased before the cost of living can come down.

"The following statement seems almost self-evident and yet hardly anyone knows or cares about it.

"It is a well known principle in economics that the world production of food and goods, considered as a great heap, is never more than two or three years in advance of the world's needs. That is to say, mankind in any normal year is never more than two or three leaps ahead of the wolf. Food is consumed almost as fast as it is produced and com-

modities have to be replaced continuously or the supply runs out.

"The fact is that in normal times consumption is almost equal to production thruout the world.

"For five years, beginning with 1914, the chief business of the leading nations was the destruction of food, goods and men. Production was diverted from its normal channels and enormously stimulated in the output of war materials which were destroyed as fast as made. This, added to the fact that in normal times production and consumption almost balance each other, means that today the world's stock of food and goods is at a dangerously low level. Everything that men need for use and comfort is scarce. And scarcity always means high prices.

"The present high cost of living has been traced to currency inflation, profiteering and many other self-evident causes. But, fundamentally, the cause of excessive prices is scarcity. The world today is poor in its supply of food and goods, as compared with the demand, and this poverty seems to be increasing, altho there are some indications that a change for the better is setting in.

"Now if these terrifying facts are put before all classes so that the most ignorant can understand them we have created a real incentive to work. Unless everyone everywhere does get to work soon the world will be brought to its senses by a touch of starvation. If the present, senseless orgy of extravagance cannot be slowed down by education it will end in universal economic ruin.

WHERE STATE-SOCIALISM FAILED

"4. We must have a nation-wide education in the simple facts and principles of economic and political life in order to head off the spread of impossible theories which infect the minds of men like a mania and which offer themselves as a substitute for honest work.

"Hardly anyone realizes that State-Socialism has had its trial and failed during the war. Yet this is a fact.

"State-Socialism was the discovery of a German Jew, Karl Marx, seventy-five years ago. He found that all the ills of life may be traced to an economic cause. And this cause branched into a trinity of evils; Private Property, Wages for Work and Profit on Capital Invested. If he could destroy these he would usher in the millennium.

"Looking about for an instrument great enough to perform this miracle he fixed upon the Political State. And for two generations a great argument raged about the question as to whether the Political State could become the economic agent of civilization.

"When the war came it became at once an industrial as well as a military struggle and the nations had to adopt the fundamental principles of State-Socialism.

LAW OF HUMAN NATURE NOT RECOGNIZED

"Here in America the Government took over the entire maritime business of the country; its land transportation; its telegraphs and telephones. The Government fixed the wages of labor, the price of commodities and the rates for transportation. By the income tax it took great sums from the rich and redistributed it by high wages among the poor.

"And all this proved that State-Socialism is an unworkable system, economically unsound and politically unjust.

"In Russia, Lenine and Trotsky saw, as John Spargo sees here, that State-Socialism was a failure. They had the courage to act on their convictions and they scrapped the Political State, erecting in its place a purely economic or industrial organization known as the Soviet.

"Just as State-Socialism has failed here, the Soviet is failing there. Because both are against the laws of human nature.

"This is the kind of teaching we must have if we are to turn the minds of the workers back to their tasks and get

results. The way to drive out a bad idea is to put a good idea in its place. Darkness always flies from the light.

"5. We must have education as to the inter-relation of the different parts of our complex social and economic life if men are to get busy again.

"Now the worker believes that his interests are antagonistic to those of his employer. He must be taught his mistake. The city dweller thinks he can get on without the farmer. But he will soon find that a milk bottle is a poor substitute for the cow and a delicatessen shop does not amount to much if nobody will work the farms.

OPEN SHOP SHOULD BE ADOPTED

"6. One great step in increasing production will come with the adopting of the open-shop thruout the nation. You must choose soon between the closed shop and the open-shop. And the choice of the open-shop involves a great price. If the employer is not prepared to pay the price he cannot maintain the open-shop. For the open-shop means that the employer will do for his men what is his duty voluntarily without the compulsion of the union. The open-shop means leadership by the big boss, education of all in the industry and an absolutely square deal with such measure of self-government as the case may warrant.

"The union has done much for the American working man. It still has much to do for him. But as an arbiter of the inner relations of the individual industry it has been a failure.

"I believe that the union ought to become to the working men what the Manufacturers' Association or the Chamber of Commerce is to the employer. It ought to deal with general conditions and become the agent of the workers in legislation and education.

"I believe, further, that the union ought to become a safeguard against strikes instead of as now the chief leader and instigator of strikes.

"You cannot ever get increased production while the working people are crazed with the strike fever. This has become a national menace. It is destroying the very fabric of our industrial prosperity.

"I raise the question is it not possible for the big men in industry and the big men in labor to get together; not in the interest of their respective classes but in the interests of the whole nation? And out of this union of forces work out a plan whereby we can recreate the minds of the people and push back the flood of alien revolution which threatens us with national disaster.

"We can increase production by at least fifty per cent. without adding a single man to our working force or an extra dollar of overhead, simply by changing ill will to good will; and this can be done by conference, cooperation, education and courageous square dealing. If we can shift our thought from the basis of rights to the basis of duty the battle will be won."



May Building Figures

Constructional operations in the month of May showed a decline of 19 per cent. from the operations of the previous month, according to statistics compiled by the F. W. Dodge Co. This slackening of activity is attributed to four general causes which can scarcely be more than temporary. They are: Disputes over adjustments in the wage scale, principally in Chicago and the Central West; freight congestion, which is felt principally in the East; the increasing difficulty of financing building operations, and the belief that prices of materials are due to drop.

The outstanding factor in the building situation, which overshadows all the difficulties and disturbing elements, is the accumulated demand for buildings. During the first five months

of 1920 the F. W. Dodge Co. reported contemplated and projected work amounting to two and one-half billion dollars as against contract awards amounting to one-half that sum. In the face of this enormous construction program, some means will be found to solve the difficulties that now are hampering the progress of construction activities.

The figures for contemplated projects for May, 1920, are:

Classification	No. of Projects.	Valuation.
Business Buildings	1,572	\$85,697,600
Educational Buildings	414	26,293,800
Hospitals and Institutions	78	8,315,400
Industrial Buildings	782	57,896,600
Military and Naval Buildings	29	3,185,500
Public Buildings	104	1,687,900
Public Works and Public Utilities	1,152	92,333,100
Religious and Memorial Buildings	195	8,611,100
Residential Buildings	4,136	81,371,600
Social and Recreational Buildings	277	19,677,800
Miscellaneous	10	135,000
Total	8,749	\$385,205,400

The figures for contracts awarded for May, 1920, are:

Classification.	No. of Projects.	New Floor Space in Square Feet.	Valuation.
Business Buildings	1,112	7,688,500	\$38,355,300
Educational Buildings	234	2,719,200	17,046,700
Hospitals and Institutions	50	795,700	4,712,100
Industrial Buildings	619	11,130,800	47,595,300
Military and Naval Buildings	8	96,100	400,700
Public Buildings	55	107,300	1,475,900
Public Works and Public Utilities	656		57,808,300
Religious and Memorial Buildings	93	458,500	4,568,600
Residential Buildings	3,217	17,095,800	65,373,700
Social and Recreational Buildings	154	1,179,700	9,849,000
Miscellaneous			
Total	6,198		\$247,185,600



Ceramists to Meet in Chicago in August

Preliminary plans for this summer's meeting of the American Ceramic Society are already well under way, and a pleasant as well as interesting three days' stay is in store for those ceramists who attend. Monday, Tuesday and Wednesday, August 16, 17 and 18, have been set as the dates and the Hotel La Salle, Chicago, as the headquarters.

The tentative program includes a visit to the new and modern plant of the Northwestern Terra Cotta Co., and to the Bach Brick Co., on Monday, with a get-together dinner at the Hotel La Salle on Monday evening.

The Lindsay Light Co., where the manufacture of gas mantels can be witnessed, the Coonley Manufacturing Co., where enameled ware is made, and the Hawthorne plant of the Western Electric Co., where telephone instruments and other electrical goods are manufactured, will be visited on Tuesday.

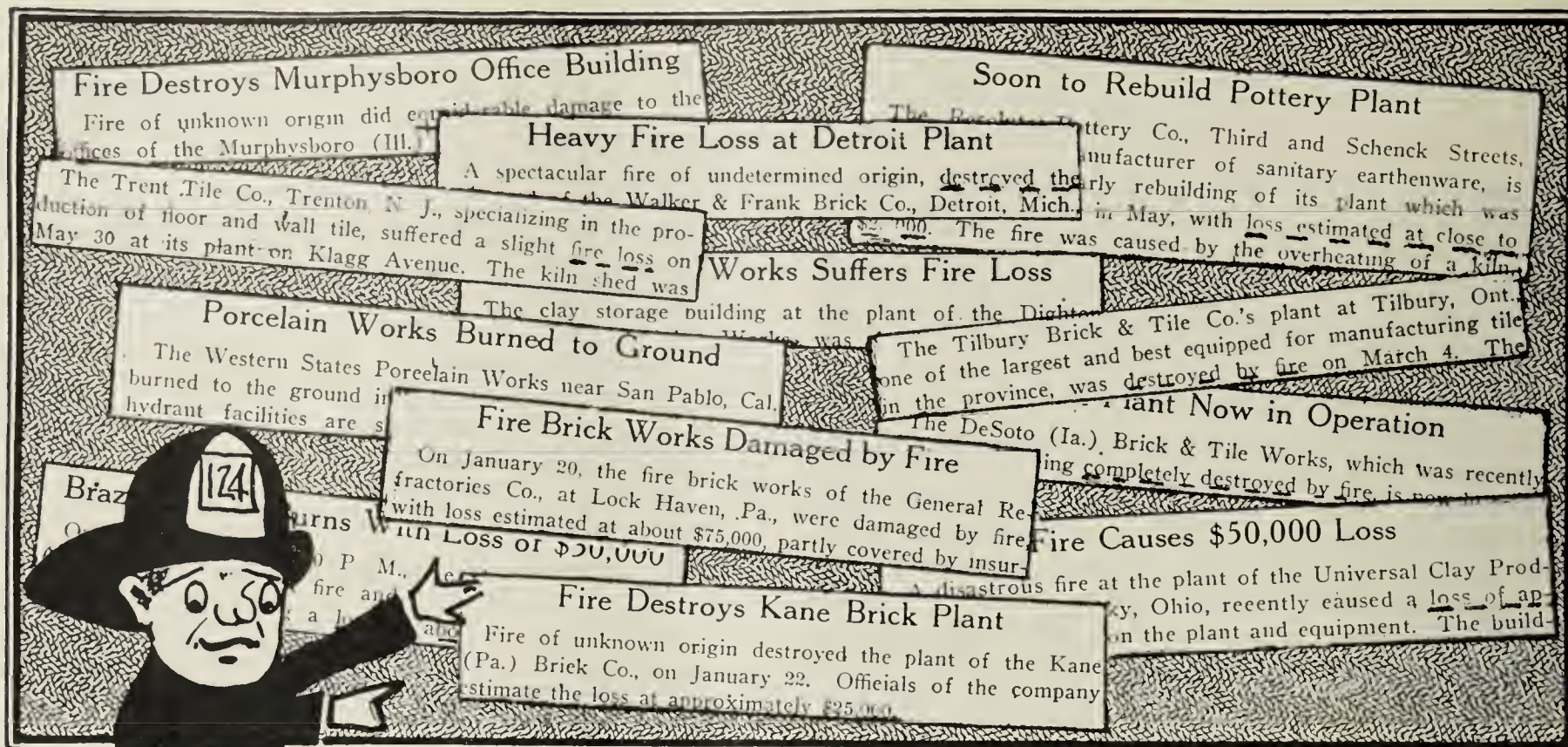
Wednesday will be devoted to a side trip along the beautiful North Shore to North Chicago and Waukegan, where the plants of the Fansteel Co., manufacturers of tungsten and molybdenum products, and other Waukegan industries will be visited.

No special program has been arranged for Tuesday and Wednesday evenings, but the committee will have reserved seats on hand for a number of Chicago's leading theaters for those who care to attend the theater.

Since everyone realizes the crowded conditions of the hotels thruout the country, and Chicago is no exception, and the practical impossibility of securing a room at the last moment, it is not necessary to emphasize the urgent need for making your reservations at the earliest possible moment.



Less than 12 per cent. of the roads of the United States are of the surfaced variety. Out of an estimated total of 2,478,552 miles of public rural roads only about 299,135 are surfaced or improved.



IMMENSE FIRE LOSS NOT PERMITTED!

How the Brazil, Indiana, Plant of the Hydraulic-Press Brick Co. Insures Itself Against Large Losses, With an Efficient Fire Department Within Its Organization

THERE IS a general misconception of the function of insurance in the business world. Many business men seem to regard fire insurance as protection against fire, whereas it is nothing of the kind. The proceeds of a fire insurance policy does not reimburse a manufacturer for a loss by fire to any great extent any more than the payment of the face of a life insurance policy to a man's widow brings the man back to life. Insurance, while the best thing the business world has yet been able to devise to meet losses, does not by any means place the holder of the policy in the same position he occupied before the loss occurred. Every brick manufacturer carries fire insurance as a matter of course, but more and more are beginning to realize the facts indicated, and to devote more attention to the prevention of fire in their plants. This, of course, is the only real sort of insurance, and therefore deserves all of the attention it is now receiving from many members of the trade.

The Brazil, Ind., plant of the Hydraulic-Press Brick Co., under the management of P. C. Farris, has had unusual success in prevention work during the past eight years. Like many other brick plants, it is outside of the corporate limits of the city near which it is situated. While even the smallest towns frequently are now found with highly efficient fire departments, the fact that the brick plant is some distance from the city means that in case of fire, the plant is likely to be wiped out before the department can get to it. It is axiomatic that a hand extinguisher on a blaze a few moments after the fire starts is worth a dozen streams played on the fire five or ten minutes later. This is one reason why a real

effort toward fire prevention in a brick plant yields big returns.

INSTALLS OWN FIRE APPARATUS

The Brazil plant installed a 25-horsepower pump eight years ago, when a series of disastrous fires in the industry had convinced the management that something had to be done. At the same time, other fire apparatus was installed, putting the Brazil plant in a position to wage a winning fight against almost any kind of a fire which should assail its factory. The initial investment was several thousand dollars and more or less work in drilling the men in the use of the fire equipment. But the company has had occasion to offer up several hymns of thanksgiving since that time. A few years ago, fire broke out in the oil room in the middle of the night, but was quickly extinguished after a brief, but strenuous fight by the night workmen.

No longer ago than April, 1920, a Sunday afternoon fire started at the fan in the drying room, which is a frame affair. Ordinarily, there would have been nothing left to do but present the proofs of the loss to the fire insurance companies and collect the policies, while laying plans for a new brick plant to be erected when the labor and material were available. But the eight-year-old fire apparatus of the company is still doing yeoman duty. The blaze was quickly discovered and almost as quickly quelled. It was a 30-minute fight which constituted a convincing argument as to the value of a fire department within the organization. By the time the Brazil fire department had reached the scene, plans were being

laid for the repairing of the damage. As a matter of fact, work was resumed as usual the following morning, no time being lost because of the blaze.

The proof of the pudding is in the eating, and the proof of the efficiency of a fire brigade within a brick plant is its ability to get into action in a very few minutes. Superintendent Farris, for the benefit of the writer, staged a little demonstration recently, pulling box 13 of the plant circuit. He turned the switch at exactly three o'clock in the afternoon, and 45 seconds later a stream of water was playing on the shed which was located at that point. If time is the prime consideration, as fire chiefs claim, then the Brazil plant's fire fighting facilities may be said to be 100 per cent. efficient.

The pumping equipment of the plant is located at a pond which can provide an unlimited amount of water. There are about ten fire plugs around the plant. The pump can give enough pressure and the plugs are so situated that three streams of water can be brought into play regardless of where the fire may appear.

There are fourteen fire stations in the plant, located as follows:

(1) Buggy shed—main office. (2) Engine room. (3) Machine room. (4) Upstairs over machine room. (5) Dry pans. (6) Housing tipple. (7) Fire engine house. (8) Pump house. (9) Northeast corner of North stock shed. (10) Barn. (11) Southwest corner of North stock shed. (12) Dryer shed. (13) North end No. 13 kiln. (14) West of South end of No. 13 kiln.

CODE EASY TO MEMORIZE

When a fire signal is sent in by the simple means of closing a switch at the fire box of any of these fourteen stations, two things happen: The fire whistle, of a distinctive tone, is blown, and an indicator in the engine room gives the number of the station from which the call comes. It is up to the engineer or fireman to transmit to the rest of the 125 men around the plant the information as to the location of the fire. To this end a code was arranged, to disseminate the desired information by means of the whistle in a few seconds' time. The code is as follows:

Station No. 1—One short blast. 2—Two short blasts. 3—Three short blasts. 4—Four short blasts. 5—Five short blasts.

6—Six short blasts. 7—Seven short blasts. 8—Eight short blasts. 9—Nine short blasts. 10—One long blast. 11—One long blast and one short blast. 12—One long blast and two short blasts. 13—One long blast and three short blasts. 14—One long blast and four short blasts.

It is worth noting that this code was arranged with regard to both ease of memorizing it and a minimum of time required to put it into execution. Time is the essence of the whole situation in case of fire.

For instance, when Mr. Farris, without warning, sent in an alarm from Box 13, which is the north end of No. 13 kiln, the writer was curious on several different points. The turning of the switch blew the fire whistle. That warned everyone in the plant that there was a fire. It was up to the man in the engine room to look at the indicator, learn the source of the fire, and inform all concerned via the plant whistle. Had he not known the code, several valuable seconds would have been wasted while he looked at the copy on the wall to learn just how many blasts were in order. But there was no delay whatsoever. One long blast and three short ones from the factory whistle followed the long blast from the fire whistle so smoothly that it was evident that the engineer had the code indelibly imprinted on his brain. Likewise, as soon as the fire team had reached the scene and adjusted the hose to the fire plug the water spouted forth eagerly, indicating that at the first blast of the whistle, the man whose duty it was to start the pump had sprinted for his station.

FOREMEN MAKE UP FIRE TEAM

The fire team is made up largely of foremen, because of their superior intelligence and the fact that the team is not so likely to be disrupted by the labor turnover which is a drawback in the brick business, among others. As in everything else relating to the procedure in case of fire, the plan is systematized, every member of the team being assigned a post. A bulletin board is maintained, bearing the number of the fire stations, the call for each station and the personnel of the fire teams, as follows: Machine Shop Hose Reel: Jeff Regdon, Fred Walker, Roy Barclay; North Shed Hose Reel: W. B. Jenkins, T. C. Worthington; Fire Engine: C. M. Ahlemeyer, V. T. Swain;



Inside of Forty-Five Seconds After the Alarm Had Been Given the Department Was Assembled Ready to Combat Any Fire That Might Endanger the Plant.

Machine Shop Tool Reel: Howard Walker, Emmett Kerins; Plug Man: Ross Carrithers; Fire Extinguishers: John Biddle, Ralph Pruitt, Ira Holloway, George Williams.

The following standing instructions also are on the board: "All hose and tool reels are to be taken to location of plug nearest fire and enough hose attached to hose kept in hose house to reach to point of fire. All necessary tools for making hose connections will be found in box on reel and in hose houses.

"In tool reel are also two adapters for use with hose from the Brazil City Fire Department. In case of severe fire, the Brazil City Department should be called and they will assist us with additional hose, and it will be necessary to put these adapters on hydrants to use city hose.

"It is of great importance to be able to handle hose quickly, that no time will be lost in attaching to hydrants. For the purpose of becoming accustomed to working hose, drills will be given periodically. At these drills only those assigned to the department should report."

As indicated, only members of the fire team report on the first alarm, so that a fire drill does not take the entire force away from its work. A second alarm immediately following the first indicates that a real fire is being fought and all hands report to the scene, to do what they can.

There is always a chance that quick action with a hand extinguisher will save the day, and these devices are numerous around the plant. The men are taught to learn their locations, which are indicated on the bulletin board as follows:

Six extinguishers along north loading track; 3 along south side of north stock shed; 2 along south loading track; 4 in cart at boiler room; 1 in buggy shed; 1 in engine room; 1 in lathe room; 2 in machine room; 1 upstairs over machine room; 1 in screen room; 1 in dry pan room; 1 on tipple; 1 at north end of No. 16 kiln; 1 in barn.

While there is a certain amount of hose at each of the fourteen fire stations and more on the reels, the hose is not kept attached to the plugs. Experience has taught that in cold weather there is danger that the water will be turned on, left to freeze in the hose and that in case of emergency, the hose will be unavailable.

As the instructions recite, adapters are used so that the city fire department can be of assistance in case of an unusually severe fire. It is not unusual for city departments to reach a plant outside of town and find that the connections are of a different size and that the city hose cannot be at-

tached. The brick plant uses 1½ inch hose while the Brazil department utilizes the 2-inch kind. A moment's work with the tools at hand will allow the city department to hook on to the plugs at the plant.

APPARATUS INSPECTED TWICE DAILY

Many brick plants have their own fire departments. The chief drawback has been that after the equipment is installed, everyone forgets about it until it is required, when it is frequently discovered that it is not in working order. The Brazil plant has a double check on its apparatus. Inspection of the engine in the pumping house is made twice daily, as a matter of routine. The night watchman inspects it at night, when he goes on duty, and one of the engine room attaches does likewise in the morning. And by inspection is meant not merely going to the pump house to see that the equipment is still there, but actually starting the engine, so that some definite observation may be obtained.

The company likewise subscribes to the service of one of the several organizations which are in business for the purpose of reducing the cost of fire insurance and helping manufacturers prevent fires. While fire insurance companies are always willing to reduce the amount of the premium when improvements in the plant are made, they are rather lukewarm as far as suggesting such improvements goes. Hence the need for experts who will make practicable suggestions, at their semi-annual inspections of the plant. It is pointed out that their service is so valuable, and results in such reductions in the cost of fire insurance, that it costs nothing to employ them.

INSPECTION SERVICE PAYS FOR ITSELF

In the case of the Brazil plant of the Hydraulic-Press Brick Co., for instance, the inspecting company made a number of valuable suggestions. One was to increase the height of the fire walls segregating the various departments. Another was the installation of steel fire doors on the interior of the plant. Another was to place a bucket of sand in the oil house, where it would be available in case of fire. Still another was to place a rubber mat in front of the plant switchboard, to protect anyone manipulating the switches. All of these ideas are perfectly logical and likely to occur to any sensible person. The point is that no one has any interest in making the suggestions, and this is why an inspection service of this kind fits in and pays for itself.



This Fire Team is Made Up Largely of Foremen, Because of Their Superior Intelligence and More Permanent Connection.

The cost of the fire equipment and the inspection service has been little or nothing, because of the fat savings in fire insurance premiums during the eight years the system has been in use. But even if the cost were heavy, officers of the company would still feel it to be a good investment. Either of the two fires which are remembered merely as incidents would have reduced the plant to ruins had it not been for the fire-fighting organization. This means that several hundred thousand dollars has been saved, exclusive of the loss that would have followed the cancellation of contracts, and the Hydraulic-Press Brick Co., therefore, is thoroly sold on the principle that continuous operation is worth while and worth working for.

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Oil Industry of the U. S. Not Wanting in Vision or Action

T. A. O'Donnell, president of the American Petroleum Institute, denied in New York on June 13, claims that British interests control 99 per cent. of the world's potential oil industry outside of the United States. He said: "The American oil industry has obtained many important holdings and concessions in Mexico, in South America and Roumania, upon the future of which large investments of American capital are staked." While admitting that Great Britain has been alert to assure security of her future petroleum supply, Mr. O'Donnell said it would be grave misapprehension to assert that the oil industry of the United States has meanwhile been wanting in either vision or action.

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A Pamphlet on Tile and Sewer Pipe

Those of our readers who are interested in drain tile and sewer pipe will undoubtedly be glad to learn of the publication of the bulletin entitled, "Supporting Strength of Drain Tile and Sewer Pipe Under Different Pipelaying Conditions." This book was prepared by W. J. Schlick, drainage engineer for the Engineering Experiment Station, of the Iowa State College, Ames, Iowa, and is known as Bulletin 57.

It may be obtained free of charge by writing to the Director, Engineering Experiment Station, Station A, Ames, Iowa.

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Labor Awakens to Demand of Greater Output

Here's a highly significant bit of tidings that will interest clay product manufacturers because of its direct bearing upon the building situation. The following matter was published in the "Chicago Sunday Tribune," dated June 20, and altho it applies more directly to the Chicago situation it marks a change in attitude of the building trade workers that is most welcome.

"Overtures have been made within the last three days by members of building crafts, urging a resumption of some building projects which have been held up on account of excessive costs. On their side, the men offer increased output.

Some of their agents are loudly denouncing the cost plus system, and this is an echo of a sentiment that has been gradually seeping thru the ranks of the workers for several months past.



One of the Fourteen Fire Stations Equipped With Hydrant and Hose. Note Also the New Fire Wall in Back of the Fan Room.

"Large builders report a general recognition among the artisans that cost plus contracts, by offering an inducement to contractors to pile in all labor possible in order that their percentage may be the higher, have tended to demoralize the working force and have been most responsible for the slump in individual productivity.

HIGH WAGES, LITTLE WORK

"As affairs stand now, the carpenters, bricklayers, plumbers and the rest of the trades are facing a rapidly diminishing employment. High wages, but little work is what the situation is working to. Since the first of the year approximately \$100,000,000 of building has been tied up in Chicago, postponed and called off because of high cost of labor and materials.

"The slackening of activities has now reached the point where, combined with a labor glut in some lines due to an influx of workmen to Chicago, either forced westward by lack of jobs in the east or attracted hither by the high wage schedules, the building trades are rapidly approaching the doldrums. This condition has penetrated quite deeply, too.

"The attitude of building labor itself is vastly different from what it was a year ago, six months ago, or three months ago. The vanishing of the labor shortage has stimulated output. The slackening of work has hammered home the economic fact that high wages have to come out of production, and that, as Governor Lowden phrased it, 'You can't divide more than you produce.'

FIGURES ON BUNGALOWS

"One builder estimated that a certain type of bungalow in 1914 took 650 carpenter hours to build, but in 1920 it required between 1,000 and 1,100 carpenter hours. The figures are relative, not exact, but they indicate a slump of at least 35 per cent. in productivity. Wages have at least doubled, but output instead of keeping pace has dropped off one-third and has shoved labor cost upwards out of all proportion. But in recent weeks an increase of 15 to 20 per cent. in man-hour output has been noted.

"We're moving towards an equilibrium," said one building

authority. "Plumbers and bricklayers are like a pendulum, always moving towards an extreme. Six or seven years ago bricklayers were working like fiends, but since the armistice they have been sagging and slowing down, up to a few weeks ago, when the labor shortage turned into a labor glut and a man had to speed up to keep somebody else from stepping into his job.

"They're thinking men, and they are realizing that if they and the allied industries such as brickmaking had done a reasonable day's work for a day's pay activities would be a-booming right now. The public wouldn't have been scared out of building houses and other structures. When all industry speeds up, production costs will drop, and then watch this country go."



GO AHEAD—CAREFULLY! ULTIMATELY *the* POSITIVE INFLUENCES WILL WIN!!

POSITIVE FACTORS

- 1.—Great scarcity of goods here and abroad.
- 2.—Destruction of war is over.
- 3.—America was enriched by the war.
- 4.—Promise of lower prices.
- 5.—Probable increase in Governmental efficiency.
- 6.—Strong banking and currency system.
- 7.—Decrease in speculation.
- 8.—Our large supply of gold.
- 9.—Imports from Europe will be small for some time.
- 10.—Sound and constructive political policies.

THE following extracts from a letter sent out to the trade by R. D. Hatton, vice-president and general manager of the Laclede-Christy Clay Products Co., St. Louis, Mo., will no doubt be of interest to our readers:

Here is the real platform for 1920. It is just as important as the League of Nations, just as important as constitutional amendments, just as important as politics. In fact, the proper political issues will be one of the strongest units

of the positive influences above. And whether the *positive* influences win or not depends largely upon *you*.

Today, too many business men are going to one of two extremes. First is the man who sees only the negative factors of the situation. He believes that our prosperity is unreal—that prices are going to fall soon and hard—that a serious panic is inevitable.

Such a man sows the seeds of doubt everywhere—he talks pessimistically, he buys and sells pessimistically, he procrastinates in his merchandising, his advertising, his plant upkeep.

On the other hand is the business man who is letting his optimism run away with him. Easy profits have turned his head. His salesmen are indifferent, even arrogant. The policy with customers is: "Take it or leave it." Such a man is *too* careless about credits. Inefficiency and rank carelessness run riot in his factory—costs soar sky-high, but who cares, "We're making money, aren't we?" Some bankers, unfortunately, fall in this class thru their inability to differentiate between speculation and legitimate business requirements.

Laclede-Christy believe that there is a *middle course* which all business men would do well to follow now. This course is: "Go ahead—carefully."

First of all, we are intensely yet *sane*ly optimistic. We believe deflation will sooner or later come, but scarcely a panic. This prosperity of ours is too *real* and tangible even tho abnormal. Don't forget that goods—here, everywhere—are still very scarce, and will be some time to come.

The proper course for *you*, ourselves, every business man to pursue is this:

Keep on producing as much as you can, but give more thought to the *quality*, rather than the *quantity* of production.

With no immediate prospects of lower wages or more plentiful help, reduce costs by introducing more efficient methods and labor-saving machinery.

The chief essential in any industry today is to *do more per unit*. Unfortunately, the increase in number employed has not been accompanied by a corresponding increase in total production. The trouble today is that men have the false and dangerous notion that the less they produce the more they make.

This reacts and lessens pride and interest in their work. Labor should be made to see the folly of such a course.

We have all got to get down to brass tacks. Not that we would cut down an iota of sound optimism and sane enthusiasm; those qualities are *always* influences for advancement. But we can keep pushing ahead not regardless of conditions but with wise regard for them. Men are needed today who can be both *prudent* and *progressive*,—who can "go ahead—carefully."

We lay stress upon the vital importance of keeping your plant and equipment ship-shape. Don't neglect repairs. Buy wisely—neither recklessly nor on the basis of cheap price.



Rounds Up Far West and Pacific Coast

"Most thoroly organized brick association in the country." This is the belief of Ralph P. Stoddard, secretary-manager of the Common Brick Manufacturers' Association of America, following his return to Cleveland headquarters from a 30-day trip thru the Middle and Far West, in which twenty-one cities were visited. Among the outstanding features of the trip has been the addition of forty new members to the organization; the formation of organizations in Southern Texas and Southern California; the joining of the main body by the Oregon Clay Workers' Association, previously organized, and the founding of local associations in Seattle and Spokane.

At Salt Lake City, Mr. Stoddard met with the Western Brick Manufacturers' Association, and got that group to affiliate with the national organization. He also met with locals in Butte, Denver and Omaha.

NEGATIVE FACTORS

- 1.—High wages and profits have produced a nation-wide condition of wastefulness, extravagance and carelessness.
- 2.—Most people are afflicted by the high cost of living.
- 3.—Labor indifferent and inefficient, but with increasing demands and restlessness.
- 4.—Reduced production in many lines.
- 5.—Currencies of all countries highly inflated.
- 6.—Money tight and rates of interest high.
- 7.—Steady decrease in exports to Europe.
- 8.—Heavy taxes causing universal dissatisfaction.
- 9.—Unwise use of gold reserve.
- 10.—Railroad problem made still worse by numerous strikes.

PERTINENT POINTS *on* COAL STORAGE

Showing That the Advantages in Securing a Reserve Stock of Coal Outweigh the Disadvantages—Simple, Common-sense Rules to Observe in Laying in a Large Supply

WHY DON'T YOU store large quantities of coal, Mr. Clay Producer? If that question were put to the manufacturers of clay ware at the present time, many of them would answer the question along the following lines: "What's the use of attempting to store coal when you can't even get enough to keep your plant going?"—Well, if that's the case, it is good proof that you should have stored fuel in the spring when there were chances to obtain a sufficient supply of coal. It is a fact that there are any number of manufacturers who at the present time are actually shut down because of their inability to secure fuel and yet these plants have orders on their books that could keep them going for months to come if they could only turn out the product.

STATISTICAL REPORT URGES STORAGE

In a June report issued by Roger W. Babson, the well-known statistician, is stated the following: "We reiterate our advice of a month or so ago; namely, to contract for next winter's coal requirements immediately. In addition, insist upon deliveries during the summer months. Briefly, the coal situation is not cleared up to any marked degree since the chaos last winter. Production, altho larger than last year, is far below the demand. Labor is still inadequate, while transportation, which is now the keynote, will improve only gradually in the immediate future. From present indications, the potential freight situation this fall will be practically unprecedented. As for prices, prospects for any decline are now remote. Generally speaking, it is better to have coal at any price than to be forced to go entirely without it. On this principle alone, we deem it advisable to cover as suggested above."

While the number of clay concerns that make the practice of keeping a nominal quantity of coal in storage, has been increasing to a marked extent, there still are a considerable number that have not as yet been convinced of the advisability of storing coal and it is these plants that are suffering the largest inconvenience at the present period. Their objections to storing coal usually amount to this: Large sums of money are tied up for months unless deferred payments can be arranged. If the coal must be rehandled this involves extra labor and increases the cost. If the coal is friable every rehandling produces fine coal or slack, which when in excess quantities, is sometimes quite difficult to burn efficiently. Storage facilities cost money to provide, maintain and operate.

GUARD AGAINST INTERRUPTIONS

While no one will dispute the desert of the above claims, certain points must be taken into consideration against these disadvantages. The storage of coal guards against interruptions. Advantage can be taken of the lower prices in spring and summer. Steady employment is given to the miners instead of seasonable employment. Coal can be transported in good weather when it costs less.

Let us look over the history of the coal market during the past. For many years one will find with but few exceptions the price of coal is at its lowest ebb in the early portion of the year—taking April as the starting point. The exceptions are so few in number that they hardly need be considered. On the price factor alone it would seem best to play safe and get in as much coal as possible for a reserve stock during the spring and summer months. Heretofore, coal has always increased in price in the fall and winter and it is hard to conceive of any reason why it should ever differ in this respect.

There are other factors which do occur not regularly, but too frequently to ignore. One of them is labor trouble. Coal strikes are not annual affairs, of course, that is, of national scope. They frequently do occur locally, however, and quite often affect the supply of coal as well as the price which a buyer is accustomed to obtaining. But coal strikes do not alone affect the coal market. A railroad tie-up, shortage of cars, unusually severe weather and other similar factors have an important bearing on both distribution and price.

CAR SHORTAGE EMPHASIZES VALUE OF RESERVE

The present serious complications with regard to supplies and distribution, of which the car shortage and chaos in railroad transportation are responsible, only serve to emphasize the advisability of coal storage. While, if coal had been stored by most concerns, the need for coal cars at the present moment would not have been so urgent, the relief of course, would not have been sufficient to ease up the car shortage to any great extent; yet, plant operations could at least have continued even if shipments are held up. In this way, the organization is at least kept intact, which in itself is an extremely important item with the scarcity of labor so acute as it is at the present time. Anyone who has permitted his organization to break up will vouch for this.

Tho it would seem to be folly to keep on making material with production costs so high as they are now and with little hope of shipping the product, the demand for clay products promises to be good for a long time yet, and possibilities of price reductions are exceedingly slim. Very few of the plants that have been closed down because of their inability to secure fuel are stocked up with manufactured ware to a safe maximum. In other words, the fact that they are unable to ship their product now is no reason why the majority of clay plants should not keep on producing if they have the coal available.

CLAY PRODUCERS RECOGNIZE NEED FOR STORAGE

The use of coal as a fuel will not go "out of style." Neither is there any danger of a sudden market reduction in price following the storage of a large quantity of fuel. On the other hand, should there be any reason for wanting to liquidate the large sum of money tied-up in a coal reserve, this

is almost always possible to do without the least bit of trouble. Coal is readily saleable because of its extensive use.

The whole situation with regard to coal storage may best be summed up as follows: Are the advantages of lower seasonable prices, steady production, and employment of labor without interruptions greater than the disadvantages of the cost of coal storage equipment installation, increased cost of handling the coal and the money tied-up in a large reserve supply? Most clay products manufacturers are now convinced that the advantages of coal storage outweigh the disadvantages and hence the necessity for providing coal storage equipment is an accepted fact, and is being practiced.

CHANCES OF FIRE LOSS ARE REMOTE

In the discussion of the advantages and disadvantages of storing coal, the risk that is taken was purposely omitted from consideration. While in the past a great deal of danger was apprehended with the storing of coal due to losses from fire, the increased practice of storing coal in recent years has dispelled most of the fear that formerly was held. Coal does heat spontaneously sometimes. If this heat is permitted to continue the coal may lose some of its heating value, and if it continues too far, combustion may take place and the storage pile set afire. However, considering the number of storage operations, its chances of spontaneous combustion are extremely remote. However, if the temperature of the pile, which should be watched carefully, does rise to a temperature of 150 to 160 degrees, steps should be taken to remove the coal and cool the heated parts.

Water can only be used to cool the heated sections if it can be applied to extinguish the fire and to cool the mass. The water must reach the point at which heating occurs, for it can do little good if the stream is only played on the surface of the pile. To be sure that the water reaches the burning coal

it is usually necessary to dig into the pile and turn it over. It is usually better to remove the coal and not depend upon the water. Three-fourths of the coal fires which have been studied have occurred within 90 days after the coal was placed in storage. Oxidation is most rapid on a freshly broken surface, and it is largely due to the oxidation of the coal surface which generates heat that leads to spontaneous combustion. The oxidation is more rapid at increased temperatures so that the process is self-aggravating.

SIMPLE RULES FOR STORING COAL

If ordinary common sense is used the risk of loss due to spontaneous combustion is not sufficiently great to deter from having a reserve supply on hand. Most any coal can be stored but there is less danger with large sizes than where there is large quantities of fine coal included. In conclusion we suggest that a reserve supply of coal be stored now and that the following simple precautions be observed in the storage of the fuel:

1. Avoid external sources of heat which may in any way contribute toward increasing the temperature of the mass of coal.
2. Eliminate coal dust and fine coal as far as possible.
3. Store dry coal and keep it dry.
4. Do not pile the coal too high. Shallow piles afford the best opportunity for the escape of heat from the interior.
5. Store as large a size coal as possible.
6. Store under water, if possible, and be sure the coal is completely submerged.
7. Watch the interior temperature of the pile with a thermometer and as soon as any abnormal rise in temperature occurs, mark that spot as the next one to be drawn on for fuel, or if the condition seems serious, overhaul the pile at that point and flood it.



NOTES *from* the NATION'S CAPITOL

THE GYPSUM RATE CASE, referred to in former issues of *Brick and Clay Record*, was heard at St. Louis, Mo., a few weeks ago, with the Hollow Building Tile Association as intervener. The association contends that the gypsum interests are seeking to get in the brick list, and has interposed an objection thru its attorneys, Francis B. James and associates. Briefs in the case as heard at St. Louis, are expected to be ready at an early date, after which the examiner will hand down a tentative report. Owing to the fact that the examiner who heard the case is about to resign, it is expected that the case will have to be written up by another examiner, and in such event, a report is not anticipated before fall.



Various Government Departments are now considering requests which have been received urging an embargo on exports of bituminous coal, and the sooner such action is taken the better for the brick, burned clay and affiliated industries. Thruout the eastern district burned clay manufacturers are much concerned over the situation; contracts with the operators calling for coal at prices say of \$5 and \$6 or slightly more seemingly are not worth the paper they are written upon, for prevailing rates are anywhere from \$10 to \$12. New England is practically barren of coal, and manufacturers there are being asked about \$11 per ton. In New Jersey, no small percentage of brick manufacturers are being "held up" with excessive demands. The policy seems to be give the material to the highest bidder.

Here's an indication of what is going on—at Baltimore, Md.,

recently it was learned that a representative of an Italian concern, on a mission to this country to secure coal, was offered all the material he wanted, practically, for from \$35 to \$45 a ton; a large quantity was purchased, and shipped to Italy. To land the coal there, plus the initial cost, represented close to \$100 a ton, and \$150 a ton is being received from purchasers on Italian soil.

Despite conditions as they appear without question in different lines of industry in the United States, President Wilson, as is generally known, does not favor an embargo on export coal; he upholds, without comment, the general view as expressed by J. D. A. Morrow, vice-president of the National Coal Association, as follows: "The coal operators are building up an export trade in coal which eventually will be one of the nation's assets. Their enterprise ought to be fostered instead of being discouraged and stopped. The coal which is going abroad is greatly needed to run railroads, city gas plants and other public utilities. If an embargo on export coal were laid a new principle would be established, which would justify similar embargoes on the export of sugar, cotton, wheat, etc."

The coal operators hold that the embargo is wrong in principle and will not remedy the existing shortage. The trouble, it is said, is the lack of coal cars at the mines—not enough cars are received to ship the coal to consumers.

Voicing the opinions of those who are well informed of matters in this line, an embargo on bituminous coal for export is much to be desired—it will go far to help many a brick and burned clay plant from shutting down, as well as correct a similar condition in other essential lines of industry.

"BRICK *for the* AVERAGE MAN'S HOME" ISSUED

Splendidly Compiled Booklet Containing Suggestions for Homes Built of Solid Brick Now Being Distributed by the Common Brick Manufacturers' Association

CLOSELY FOLLOWING the publication of the unique and artistic plan booklets issued by the American Face Brick Association and the Hollow Building Tile Association in connection with their respective advertising campaigns there has just reached the desk of *Brick and Clay Record* an advance copy of a remarkably beautiful and well gotten up compilation entitled, "Brick for the Average Man's Home," issued by the Common Brick Manufacturers Association of America. This book is available from Ralph P. Stoddard, secretary-manager of the Common Brick Manufacturers Association of America, 1300 Schofield Building, Cleveland, Ohio.

The volume itself consists of 72 quarto size pages, bound in Buckeye cover stock, antique finish, double weight. The outside front cover carries in full colors a brilliant reproduction of the well-known painting by Hottinger called "The Home Coming," in which the entrance of a handsome brick residence forms the striking background of an irresistibly pretty home scene.

The contents of the publication include illustrations of thirty-five designs for practical and artistic homes including cottages, bungalows, houses and two-apartment buildings. Designs of one and two-car garages are also shown. As in-

troductory to the detailed description of these model homes there are presented chapters entitled respectively "Material, the First Essential of the House," "It Is More Economical to Own than to Rent," "The History of the World Is Written in Brick," "Finest Architecture Is Best Expressed in Brick," "Ultimate Cost Is True Test of Building Material."

"A BOOK WITH A PURPOSE"

Secretary-Manager Ralph P. Stoddard of the Common Brick Association under whose efficient direction the volume was prepared and issued, in a prefatory word says:

"Brick for the Average Man's Home" is published with a sincere desire to help every man who would build a moderate priced house.

"In the United States eighty-nine per cent. of all residence construction is of frame. 'Frame' includes all houses with exterior walls of studs covered with siding, shingles or stucco, or veneered with brick. Permanent and fire-resistive construction includes walls such as solid brick, hollow tile faced with brick, hollow tile stuccoed, stone or concrete. Common brick has no argument with the eleven per cent. of builders who know the real economy of the better types



Reproduction from Illustrated Outside Front Cover and Interior Pages of New Sales Publication Just Issued by the Common Brick Manufacturers' Association.

Cost Schedule of Common Brick Homes

ESTIMATED COSTS AND PRICE OF PLANS AND SPECIFICATIONS

THE prospective owner should select from this book the design which appeals to him, order a set of working drawings and specifications, and from these have a reliable local contractor give an exact estimate.

Frank R. Walker states, in a recent supplement to "The Building Estimator's Reference Book," that, at prices current on December 15, 1919, a two-story solid brick house with seven or more living rooms, complete with steam heat, modern plumbing, electric wiring and fixtures, hardwood floors and finished in birch, gum or yellow pine should cost very roughly from 30 to 33 cents per cubic foot complete, including the contractor's profit.

In this cost the following allowances were made for special equipment, so that these items could be deducted or altered to suit requirements.

Plumbing gas fitting and sewerage.....	\$475.00
Steam heating plant.....	500.00
Electric wiring.....	125.00
Lighting fixtures.....	80.00
Painting and interior decorating.....	400.00
Hardwood floors.....	275.00
If furnace heat is wanted instead of steam, deduct.....	250.00
If hot water heat is wanted instead of steam, add.....	175.00

These figures have been taken as a basis for the following rough estimates, allowance being made however, for variable costs of material and labor in different parts of the country. The minimum and maximum price given is intended to embrace the widest possible variation.

If the contractor is not thoroughly familiar with brick construction write for the second edition of "Brick, How to Build and Estimate" a complete brick builders' manual fully illustrated, which will be sent for special mailing price of 25 cents.

NAME	DESIGN NUMBER	ON PAGE	APPROXIMATE COST WITH BASEMENT AND HEATING	APPROXIMATE COST WITHOUT BASEMENT AND HEATING	COST OF PLANS AND SPECIFICATIONS
AZTEC.....	37	46	\$3,600 to \$ 5,500	.....	\$10.00
CHEROKEE.....	318	54, 55	5,600 to 7,800	\$4,200 to \$ 6,000	10.00
CHEYENNE.....	103	44, 45	3,300 to 5,000	.....	10.00
CHIPPEWA.....	124	40, 41	3,800 to 5,800	.....	10.00
CHOCTAW.....	212	48, 49	7,000 to 9,600	5,000 to 8,000	10.00
HURON.....	102	42, 43	3,700 to 5,700	.....	10.00
IROQUOIS.....	319	60	.....	1,750 to 2,600	7.50
ITHACA.....	436	63	.....	1,500 to 2,200	5.00
KENNEBEC.....	4	30, 31	4,500 to 6,100	.....	10.00
LOTELLA.....	422	62	.....	1,600 to 2,300	5.00
MANISTEE.....	307	58, 59	4,800 to 6,500	3,500 to 4,500	10.00
MAUMEE.....	621	67	8,500 to 13,000	.....	10.00
MOHAWK.....	15	22, 23	5,700 to 8,700	.....	10.00
MUSKOGEE.....	316	56	5,750 to 7,800	4,500 to 6,200	10.00
NAVAJO.....	425	61	.....	1,900 to 2,700	7.50
ONEIDA.....	10	20, 21	6,500 to 10,000	.....	12.50
ONEONTA.....	114	38, 39	4,900 to 7,400	.....	10.00
ORONGO.....	502	64, 65	8,200 to 12,500	.....	12.50
OTSEGO.....	201	51	.....	6,800 to 10,200	10.00
POCATELLA.....	5	24, 25	5,600 to 8,500	.....	10.00
PONTIAC.....	9	26	6,300 to 9,600	.....	10.00
POTOMAC.....	120	36, 37	5,000 to 7,600	.....	10.00
POWHATAN.....	501	64, 65	7,900 to 12,000	.....	12.50
SARANAC.....	204	52	.....	5,600 to 8,400	10.00
SARATOGA.....	202	50	.....	8,000 to 12,000	12.50
SENECA.....	1	28, 29	4,500 to 6,900	.....	10.00
SEQUOIA.....	228	53	4,700 to 7,000 half basem't	.....	10.00
SHASTA.....	27	33	3,900 to 6,000	.....	10.00
SHAWNEE.....	203	47	.....	7,800 to 11,800	10.00
SUSQUEHANNA.....	111	34, 35	5,500 to 8,400	.....	10.00
TACOMA.....	26	27	5,000 to 7,600	.....	10.00
TICONDEROGA.....	503	66	9,500 to 14,500	.....	12.50
UNADILLA.....	39	18, 19	8,500 to 13,000	.....	12.50
WINONA.....	317	57	3,400 to 4,700	2,500 to 3,400	7.50
YOSEMITE.....	29	32	5,200 to 7,900	.....	10.00
GARAGES.....		68, 69	.....	.....	1.50

Working drawings of any design in this book can be had reversed if desired.

Reproduction of Page from Artistic Sales' Book of the Common Brick Manufacturers' Association, Listing Approximate Cost of Each Home, Described and illustrated with Floor Designs, Within its Pages.

of construction. It feels a partnership with all safe materials and glories in their success. 'With malice toward none' it enters the field of the eighty-nine per cent. of homes now built of frame, and draws attention to the fact that common brick, in solid wall construction, is the most beautiful, economical and satisfactory material for the man of limited means.

"Lumber is equally essential to the attractive and comfortable home. By a wider use of brick for exterior walls more lumber and carpenter labor will be released for interior work and will permit the building of more houses so much needed."

THE "MODEL" HOUSE DESIGNS PRESENTED

In describing the designs in the volume it is stated that they comprise the most careful selection out of a wide range of varieties and are the result of thoro study of the qualities of utility and beauty, covering twenty years of contact with the building public. Every house in the book is designed by competent architects and full working drawings and specifications are available. Each design included in the book is illustrated with floor plans, an exterior view of the residence in question, reproduced in a most artistic etching with foliage, trees and lawn printed in vivid green tints. A drawing of some particularly cozy interior corner accom-

panies most of the designs while full description of each one is given.

We are glad to present herewith what is perhaps the most practical data in the entire volume, a tabulation showing the approximate cost of each of the designs both with and without lighting, heating and plumbing fixtures.



Expect No Immediate Change in Industry

According to statistics which are available to a large well-known organization, which gives reports on the industrial outlook, the stocks of clay products thruout the country are fairly low, altho accumulation is being noted in some of the largest cities. Demand is fair and should continue so during the rest of the 1920 building season. Deliveries are becoming more prompt and no immediate change is looked for with regard to trade.

Regarding cement, it is said that the demand for cement continues active and should remain fairly strong thruout the summer. The producing capacity in this industry, however, is ample to supply the demand. Transportation facilities show improvement and the industry should remain prosperous until at least the early fall or winter.



CURRENT PRICES of COMMON BUILDING BRICK
from SEVENTY-SEVEN CITIES

INASMUCH AS considerable interest has been manifested recently in common brick prices thruout the country, it has been deemed wise to make a compilation of current quotations for the benefit of our readers. The prices which follow are reported as *delivered on the job*. They are, therefore, in the very nature of the case, higher than the plant price. This should be taken into consideration in examining them.

If for any reason these prices do not seem to be in line

with conditions as they exist in the towns enumerated, and furthermore, if you have any information that would tend to prove these prices to be incorrect the editors of *Brick and Clay Record* will be very glad to hear from you. These are, however, quotations which are being given at the present time by agencies selling brick in the towns mentioned.

The foot notes are explained at the end of the following tabulation:

COMMON BRICK		Per M		
Boston, Mass.		\$29.25	Norfolk, Va.	24.00
Portland, Me.		28.00	Richmond, Va.	25.00
Providence, R. I.		37.00	Huntington, W. Va.	24.00
Hartford, Conn.		30.00*	Fairmont, W. Va.	33.00
New Haven, Conn.		35.00	Wheeling, W. Va.	30.00
New York City		30.75	Atlanta, Ga.	25.00
Albany, N. Y.		25.00	Miami, Fla.	42.50
Binghamton, N. Y.		30.00	Tampa, Fla.	30.00
Elmira, N. Y.		23.00†	Frankfort, Ky.	24.00
Rochester, N. Y.		24.00	Louisville, Ky.	20.00
Buffalo, N. Y.		30.00	Lexington, Ky.	29.50
Jamestown, N. Y.		33.00	Memphis, Tenn.	30.00
Allentown, Pa.		22.00	Nashville, Tenn.	19.00
Philadelphia, Pa.		25.00	Birmingham, Ala.	25.00
Pittsburgh, Pa.		20.00	New Orleans, La.	24.50
Reading, Pa.		23.00	El Paso, Tex.	21.00
Scranton, Pa.		28.00	Houston, Tex.	25.00*
Newark, N. J.		32.00	Dallas, Tex.	25.00
Paterson, N. J.		30.00	Topeka, Kans.	25.00
Trenton, N. J.		27.00	Little Rock, Ark.	18.00
Wilmington, Del.		25.00	Oklahoma City, Okla.	27.50
Washington, D. C.		24.50	Cincinnati, Ohio	23.00
Baltimore, Md.		25.50	Cleveland, Ohio	25.00
			Columbus, Ohio	30.00
			Toledo, Ohio	23.50†
			Evansville, Ind.	16.00
			Fort Wayne, Ind.	21.00
			Indianapolis, Ind.	22.00
			South Bend, Ind.	23.00
			Terra Haute, Ind.	19.00
			Bloomington, Ill.	22.00
			Chicago, Ill.	16.00
			Moline, Ill.	24.00
			Green Bay, Wis.	20.00
			Milwaukee, Wis.	20.00
			Grand Rapids, Mich.	22.00
			Minneapolis, Minn.	24.00
			St. Paul, Minn.	24.00
			Davenport, Iowa	25.00
			Des Moines, Iowa	34.50
			Sioux City, Iowa	21.00
			St. Louis, Mo.	20.00
			Lincoln, Neb.	21.00
			Denver, Colo.	19.50
			Butte, Mont.	16.00
			Los Angeles, Cal.	13.50
			San Diego, Cal.	18.50‡
			San Francisco, Cal.	17.50
			Portland, Ore.	23.50
			Seattle, Wash.	20.00
			Winnipeg, Man.	20.00
			Toronto, Ont.	18.00
			Halifax, N. S.	19.50
			Quebec, Que.	18.50

*Hartford, sold by mfrs. only; Houston, mfrs. price.
†Plus drayage; \$35 in small lots; Toledo, \$32.50 in small lots.
‡Carlot rate, San Diego.

HOW YOU *may* LOSE MONEY thru "PROTECTED CHECKS"

*Tho You May Employ Some Protective Device,
Your Bank Check is Not Exempt from Alteration*

IF YOU HAVE NEVER had one of your bank checks raised, it is due more to the fact that you are fortunate rather than that your checks are unsusceptible to alteration. This statement probably immediately raises a question from you and you are wondering what the "catch" is—but there is no catch. You may believe that your checks are secure from alteration because of some protective device you employ, but if you read the article entitled, "Your Check," by Edward H. Smith, which appeared in the May 1 issue of the "Saturday Evening Post," you perhaps are not so confident now due to the revelations expounded in that article.

All of you write and receive checks. Few of you realize the extent of check raising and forgeries that occur each year. The article that was published in the "Saturday Evening Post," offers subject matter for this item which every business man should know about and that was too good to let go by without making some comment on. It was stated that check losses had multiplied seriously in twenty-five years.

HUGE SUMS LOST DUE TO ALTERATION OF CHECKS

In a statement made before the convention of the American Bankers' Association in Boston, in 1914, Wm. J. Burns said that the total of losses thru forgery and raising had been about \$17,000,000 in 1907, whereas in 1913 the sum of \$23,000,000 was reached. Since that time the bankers have considered it better policy not to publish such figures. It has been estimated that present losses reach a total of \$30,000,000 a year.

Quoting from Edward H. Smith: "Moreover, it seems to be a fact that forgery and check crimes in general are and have been for years on the increase, as compared to other forms of property crime. It is now believed by students of the problem that only larceny numerically exceeds forgery in its various manifestations. And in amount of loss, forgery is exceeded only by swindling and embezzlement.

"Summed up, it is certain that check fraud is one of the commonest and costliest offenses of the day. It expands roughly at the rate of a million dollars a year in additional losses. It has grown constantly as a problem to business and banking. Naturally, as the crime has increased so the fight against it has been intensified, with the result that the historic struggle between the social and anti-social forces—business and crime—is being enlarged with new and astonishing chapters.

"Again and again in the last twenty years devices have been invented and plans put forward which seemed on their faces to put an end to the activities of the forger and check alterer. With a little time it has usually been found that the cleverer criminals succeeded in beating these protective mechanisms.

"It would be folly to deduce from such statements as these that banking, business and police brains have been outwitted by the criminals. What seems to be true is that the lawbreaker has always had something of an advantage.

It is easier to break into a man's home than to make that home burglarproof. Something comparable exists in the relations of the check alterer and the writer.

PROPORTION OF LOSS ON CHECKS

"Nor is it to be assumed that the great growth in the total of check losses is any whit alarming or out of fair proportion to the growth in business. The enormous expansion in bank clearings in twenty-five years represents the growth in the total of bank-check transactions. In the years 1895, 1896 and 1897 the period a little less than a quarter century ago, the average yearly clearances of the New York Clearing House were \$30,000,000,000 and the national total a little less than \$50,000,000,000. On the other hand, New York cleared \$214,000,000,000 in 1919, and the country say \$387,000,000,000 thru its banks. It will be seen that a loss of \$30,000,000 out of a total of \$387,000,000,000 in check transactions is in the proportion of 1 to 12,900.

"There is no reason why business should meekly submit to an annual tap of this size, and the fact is that banks and business houses generally are more alive to the situation and more active in their protective work than ever before. On the other hand, the general public seems both negligent and ignorant in the matter. The average man believes in some protective devices which do not protect and often render a check more easy to alter. The average writer of checks is grossly careless and leaves the way open to many frauds that are wholly avoidable. The intention is to give the holders of bank accounts as much sound information as there is on the subject. It is not claimed that the author or anyone else knows any absolute protection for your check. But there are ways of reducing losses and preventing crimes.

SAYS DEVICES HAVE NOT STOPPED CRIME

"The head of one of the largest insurance companies issuing indemnities against business losses says of the present situation: 'There is no doubt that check losses have increased rapidly in recent years and that devices used for protection against check alteration have not come up to expectations. Check raisers appear to have found ways of getting around mechanisms now in use. To evidence this there is the fact that a demand for insurance against check frauds has lately sprung up. This is practically a new insurance development for this country. As to the amount of losses last year, I cannot give authoritative figures, but I have heard experts estimate it at \$30,000,000 and I believe that to be approximate.'

"It might be well to say in beginning that there is no intention to discredit any honest system, method, device, mechanism, chemical or other idea or substance employed in the defence of checks. The sole purposes are to point out that nothing is completely successful, that much carelessness and many false notions exist and that reasonable foresight will do more against the criminal than any discovery yet made. At the same time it is fair to say that many protective measures now in use have distinct value."

The article went on to tell of numerable accounts of how check raising and forgeries have been accomplished by expert criminals. These instances as related in the story were all very interesting and eminently astounding disclosures made of how the seemingly impossible was accomplished in the art of check raising.

PROTECTIVE SCHEMES IN USE

The first method used to meet the challenge of the criminals was the elaboration of an idea already in use against the forgers—the safety-paper check. From a mere tinted stuff that was certain to fade under acid and show erasures, safety paper was gradually evolved and complicated into the thing it is today, a paper with tint, watermark and often an elaborate design in the tinting and watermarking.

The second protective idea had to do with the inks. Chemical inks that were indelible and acid-proof and said to perform reactions with the chemicals in the paper coming into use.

Finally came mechanical devices for protecting checks—machines of an almost infinite variety of manufacture designed to make check raising impossible. There are four general types of these machines. One type perforates the check, showing the amount for which it has been drawn; another type ruffles or corrugates the paper, so as to, it is thought, render erasures impossible. Next came a machine that printed the amount for which checks were drawn on the face of the paper, either in patent ink or with type which printed on both sides of the check, so that the inking permeated the paper. The fourth type of protective machine also prints the correct amount, but breaks the fabric of the paper at the same time injecting acidproof ink into the porous fiber of the paper where the printing is done. However even with these protective devices at the means of the public, check raising on these protected notes is accomplished.

SOME FUNDAMENTALS IN CHECK WRITING

Altho the "Don'ts" for check writers given by Mr. Smith are very elementary, we believe it of advantage to incorporate his message here: "Checks now issued are of two general classes—those on which a protective machine is used and those without such defensive stamping. The latter first. The average check written by the private individual, generally merely scrawled out in ink on checks furnished by the bank, can be raised by an ordinary crook. The average person writes his check so carelessly that Nine can always be raised to Ninety, Five to Fifty, Four to Forty, Six to Sixty, and so on. The numeral amount is generally so loosely written that there is no trouble putting an extra zero behind the initial figure. I have frequently seen carelessly written checks raised from such amounts as 'Ten and 70-100 dollars' to 'Ten Thousand 70-100 dollars.' The words had been so widely spaced there was no trouble writing the 'thous' before the 'and.' The man of business does not need to be warned against such carelessness. Nevertheless, it may pay him to warn his office force. And there are thousands of bank depositors who know nothing of business.

"The anecdotes of criminal methods which I give should instruct the public in the type of trick to watch for, the criminal devices to be guarded against. For the benefit of all who may need such instruction I make bold to set down some simple rules for check protection:

"Do not typewrite checks.

"Never permit any check to go out on which an erasure has been made or attempted.

"Never write over any letter or figure in a check. All such marred checks should be destroyed and others written.

"Do not give checks to strangers.

"Write every letter and figure in your check clearly and carefully.

"Begin your amount line at the extreme left edge of the check, write clearly and keep all letters and numerals connected; no gaps.

"In writing the word 'and' into checks where odd cents are drawn it is well to write the word perpendicularly or slantingly.

"Safety paper and good acid-proof ink are aids, but must not be considered absolute safeguards.

"A good impregnating stamping machine helps to eliminate the amateur criminal but is not always effective.

"A poor protective machine may only make alteration easier.

"Checks and check books should always be kept in a safe or under lock.

"Remember that a clearly written check in good ink on safety paper is about as secure as anything yet devised.

"Watch the writing of the payee's line in your checks.

"These rules, with such ordinary precautions as sensible persons will naturally exercise as to those intrusted with checks and the depositing of money will fairly protect the average person."

In closing we wish to point out the possibility of having insurance against check alteration. Most of the surety and bond companies will protect you against check alteration for the small sum of about \$5.00 per thousand dollars' bank balance.



Unveiling Factors Making for High Brick Costs

Definite steps toward obtaining data that should give federal officials authority upon which to act in bringing about an improved freight situation for the clay products industry, are now being taken by the Common Brick Manufacturers' Association of America, under direction of Ralph P. Stoddard, secretary-manager. This information will show present freight costs, switching charges, number of cars available and the fuel supply today compared with a year ago and before this country entered the war. It is believed by those interested in obtaining the data that there will be less excuse, if any, for those with the power, to act in a manner favorable to the industry. Not only will such a move favor the industry, but it will indirectly reflect back advantageously to the country at large and the public, in increased building possibilities at lower costs. Chief information being brought out by the data now being gathered is that the high cost of present facilities is a factor contributing largely to the higher cost of brick.

When the data is completed it will be presented to the senate committee, of which Senator William A. Calder is chairman, and also to the Interstate Commerce Commission. The information is expected to aid the senate committee's investigation into the building industry. The National Federation of Construction Industries will appeal likewise to the Interstate Commerce Commission for better car service for the brick industry.

All brick manufacturers who are members of the Common Brick Manufacturers' Association of America are cooperating in the work. Already a large number of replies to the questions asked have been received from among the 350 members of the association, at the Cleveland headquarters of the organization.

Among significant details revealed, showing how high costs of transportation and lack of transportation facilities and fuel have made for tremendous increase in cost of brick along with other building materials, are those offered by the Boston Brick Co., Boston, Mass. This firm has been paying \$3 a thousand for the movement of brick within a 70 mile radius of Boston. It has been paying \$2 per thousand for the handling of the material from its plant to a switch. At Roch-

ester, the Rochester Clay Brick & Tile Co. has been paying 80 cents a ton, or about \$2 per thousand merely to move the material from its plant to a main line railroad. The Patton Clay Manufacturing Co. shows that the cost of moving the material within a 50 mile limit of its plant has increased from 60 per cent. to 200 per cent. above pre-war costs.

"These details are representative of the conditions under which brick manufacturers are working in all parts of the country now," says Mr. Stoddard. "Many are inclined to see in the present high costs of transportation the result of discriminatory rates, authorized at the time this country went into the war, in order to discourage building at that time. It is the contention of our members, and I believe it is the belief

of all members of the building material industry, that the time has come for a revision of these rates, not merely to aid the manufacturers, but to facilitate building and bring the costs nearer to the views of prospective builders."

Another factor making for high brick costs is revealed in the information from different brick manufacturers showing that even the most optimistic do not see better than 50 per cent. of their required car supply. This added cost comes from the necessity of piling brick near the plants while waiting for cars. The double handling increases the cost an additional \$2 for the labor involved. Meanwhile production is largely curtailed, as there is a limit to output under these conditions.



PAVEMENT *of* BRICK LAID *on* ONE-INCH BASE GOOD *after* FOUR YEARS *of* SERVICE

FOUR YEARS AGO this summer 7 miles of 9-foot monolithic brick pavement was laid on a 1-inch concrete base in Stockton township, Iroquois County, Illinois. This pavement was a success from the start. The contractors made rapid progress, obtained a very smooth surface, and at the same time made a fair profit at a price of \$8,500 per mile, with a 7-foot earth shoulder on each side of the slab. At the present time the pavement has passed thru practically four winters and there is not a defect except in the first section laid, where poor grouting has shattered the tops off a few brick, and except at the ends of a concrete bridge, where a fresh fill settled and consequently took the pavement with it.

The construction of the Stockton township road was the outcome of observations of an experimental monolithic brick road built in 1914 near Danville, Ill. This was one of the first experimental roads of monolithic brick to be constructed and it was described in the "Engineering Record," September 30, 1916, page 400. Briefly four sections of 15-foot pavement, crowned 1½ inches, were built as follows: (1) A length of 36 feet, of 3-inch brick on a 3-inch base of 1:3½:6 concrete; (2) a length of 64 feet of 4-inch brick laid longitudinally on a 2-inch base; (3) a length of 50 feet of 4-inch brick laid transversely on a 2-inch base, and (4) a length of 48 feet of 4-inch brick on a 1-inch base of 1:3½ cement-sand mixture.

In constructing these sections of pavement, the concrete was placed just as wet as was necessary for workability but not so wet that it would run at the edges. The slab was struck off with a templet but the concrete was not tamped and the brick were laid and grouted immediately. The road selected for the experiment carries a heavy traffic from coal mines. The fourth experimental section was placed where it received the most severe test, at the edge of a soft gravel road. In the spring, when the frost was breaking up, this gravel road was little better than a series of mud holes from which heavily laden coal wagons bumped up onto the pavement. In the summer, on the contrary, the gravel surface was high above the brick and the traffic dropped down upon the edge of the pavement. After four years of this punishment the slab showed no signs of failure. A new pavement was laid beyond the experimental sections, replacing the gravel road. Today, after six years of use, the experimental sections look as well as they did when built.

The experience with these test roads emphasizes the results obtained in actual service from the Stockton township

road. A fact of importance to be kept in mind is that while the soils vary many times in character in the length of the pavement, under them all is a good bed of gravel. This gravel subsoil acts continuously as an efficient subsurface drain, performing good service at the most critical time when the thaw sets in and before the road surface and the ditches have thawed out.

At the prices of 1916, a saving of at least \$3,000 a mile was effected by the construction described and apparently a good pavement was secured. Many roads today could be paved with a corresponding saving in cost. While the monolithic form of brick pavement has now virtually been abandoned on account of construction difficulties, the principle of seeking the greatest economy consistent with safety still applies and more forcibly than ever. With prices of labor and material rising enormously it behooves engineers to spend a little more time on subgrade problems. Make the foundation strong and the slab will *take care of itself*.



Will Co-operate with Architectural Bureau

Plans for thoro cooperation with the Cleveland Architectural Advisory Bureau, Cleveland, Ohio, are being made by Ralph P. Stoddard, secretary-manager the Common Brick Manufacturers' Association of America, following the final organization of the bureau. It is the belief of Mr. Stoddard that the principal work of the bureau, that of improving the construction of housing and other buildings thru building loan agreements, is such as to aid materially the adoption of brick as a material for economical housing.

To this end plans and specifications and working drawings will be at the disposal of the new bureau, which is practically ready to start its work. In addition, models of twelve houses, to be built of common brick, are being prepared, these being built to one-eighth-inch scale. The models will be representative of the thirty-five houses now planned by the brick interests. They are complete in every detail. These details and other materials will be available to the bureau, and to the people of Cleveland, who seek to build the most economical houses, and yet obtain the highest loans. The bureau is now waiting upon the council to approve a \$15,000 budget, at which time it will start its program.

Arch C. Klimph, of the Cuyahoga Lumber Co., is chairman of the committee governing the bureau, and members of the council include F. H. Chapin, formerly of the Hydraulic-Press Brick Co., and now of the Upson Nut Co.

*Reprinted from an article by Harlan H. Edwards, City Engineer, Danville, Ill., in the June 17 issue of "Engineering News-Record."

TEN COMMANDMENTS of SALESMANSHIP

*A Double Quintette of Pointers in Selling Goods That Will Bear
the Careful Study of Every Ambitious Clay Products Salesman*

By Dr. Frank Crane

Editor's Note: To nearly everyone who spends two or three cents for a newspaper, or fifteen or twenty cents for a national magazine, the name of Dr. Frank Crane is a familiar one. Dr. Crane is said to have between seven and ten million readers. Salesmanship is not always an easy theme to write or talk upon—and say something new or interesting. In the following talk before a body of business men, the author, or rather the speaker, has accomplished the difficult thing—he has said something, not only interesting, but highly instructive.

“I AM GOING to tell you how to sell goods. I never sold anything in my life that I know of, that is, that I didn't get swindled,” said Dr. Frank Crane in addressing a luncheon gathering of the Chicago Association of Commerce recently. “There are a couple of gentlemen here in Chicago that I would like to get some money back from, but I am the best little buyer in the United States. I have bought more things that I don't want than anybody who now sits before me—washing machines that won't wash, carpet sweepers that the hired girl can't push, and encyclopedias that I never have looked in, and I'll go on paying for two or three years after I am dead.

“I want to tell you about the kind of a man that can sell me goods. We are all salesmen more or less—we are trying to make people do what they don't want to do. That is a salesman. Get into the selling end of the business, there the money is made.

BE AGREEABLE

“The first commandment: *Be agreeable.* That, I should say, is pretty near the whole duty of man—to say nothing of woman. If there are two shirt stores side by side and one of them has good dependable goods and the other has goods that are a little shaky and the man charges too much and he is a little shifty and I patronize him, after a while I will go to the place where the man is agreeable. Now I oughtn't to, mark you, I am a poor boob, but I am the majority of the people in the United States. They are boobs, and I am one of them. If you treat me agreeably I come back, and that is what you want. That is, nine-tenths of the quality of your goods is the personality you paste over them, as far as the purchaser is concerned.

“Agreeableness is one of the few things in this world that doesn't cost you a cent, and you can sell it to anybody. Everybody wants it. Of course, you don't want to be too darned agreeable. Life, after all, is a good deal like walking a tight rope. You can't be too extreme in anything. I like the sunshine of your presence, but I don't want to get freckles, you know. I simply want you to treat me as tho you were

glad to see me, not as if you were bored to see me. Don't act bored when you talk to me. You may be bored, but don't act it. I am very finicky. I am very egotistical, and I am very sensitive. Just remember that. You are there just to sell goods. You only have to be agreeable for about eight hours a day. Then you can go home and beat your wife if you want to, nobody cares.

KNOW YOUR JOB

“Second commandment: *Know your business.* Most business men don't know what is behind it. They are not students. The best business man is the man that knows all that lies behind his goods. For instance, you are selling coffee. Know where it grows, the kind of people that sell it, the ships that carry it, the various brands, all the poetry that has ever been written about it, and all the crimes that have ever been committed under its influence. You should be just full of coffee. Nowadays it is about all you can get full of.

“If you are selling automobiles any point that satisfies a customer's curiosity is a talking point. If you know all about automobiles, you know the first man that invented an automobile, his name, where the first automobile is now, that was ever made in the United States. You know the growth of the business; how it depends upon gasoline; what the prospects are for the gasoline supply to hold out; what the prospects are for making some other kind of fluid besides gasoline that you can put under the buggy seat and make the thing go without a horse. You know all these things. Are you up in all the literature of it? Why not?

A FORTUNE IN WASTE TIME

“You waste enough time every four years to give yourself another college education. When you come out of college you are not educated. The ground has just been prepared. A man's education begins or takes place in the ten years after he gets out of college. It depends upon his habits of utilizing waste time. I knew a young clerk in New York who took up four years Spanish on the side, meanwhile cultivating speech itself thru a Spanish chum. Finally my inconspicuous young friend, who was working in one of the great banks in New York at \$1,500 a year came to his own. That bank wanted to start a branch in Buenos Aires and they looked around for somebody to take charge of it. Of course, the fact that this boy had been studying Spanish for four years had gotten around thru the clerks that knew him. The directors found it out. They looked the fellow up, found out he knew about as much about the banking business as any of them, and he knew Spanish. He now holds the new job in Buenos Aires not at \$1,500 but at \$15,000 a year.

TELL THE TRUTH

“Third commandment: *Tell the truth.* I don't mean that in a moral sense in order to go to heaven or save your ever-

lasting soul, but as a gambling proposition. You know every gambler is a careful student of laws, every successful gambler. The man that takes big chances is not a gambler. He is not a good gambler at all.

"He is the class you call the 'tin horn.' He doesn't belong. The man that makes money gambling is the man that knows the law of averages. There are people that make a living gambling on the stock exchange and elsewhere, and they know the law of averages. They stick to it just as closely as a dry goods merchant.

"Now the beauty of telling the truth is that on the average it pays better than lying. The man that will tell the truth right along will get by—and *then it is so much easier*. I never was smart enough to lie. I tried it several times and it didn't work. You don't have to lie awake nights thinking about new lies when you tell the truth. You know this universe is so organized, such a complex mysterious thing, and the principle upon which it is organized is the truth, and when a man gets to 'monkeying' with that he doesn't know where the thread he is pulling runs to. He doesn't know what consequences he is bringing upon him, but any just plain ordinary 'mutt' can get along if he will tell the truth. Consequently, most of us, being in that class, we would better stick to it.

DON'T ARGUE

"Four. *Don't argue—not with me*. I am your customer. You want to sell me something. Don't argue with me. Don't persuade me. Suggest. When you argue with your man you convince him by the force of your reasoning and logic. That is all right. You convince me, and when you get thru I am not able to answer you, perhaps I am not a good talker. I throw up my hands, and say, "All right. All right. You are all right. I agree with you." But I go home and sleep it over and during the night I come loose. I don't stick. No man ever sticks to a conviction unless he got there himself. You can't push a man to a conclusion. Consequently, if you want me really convinced so that I will come across and buy your automobile, let me convince myself. Just suggest and 'kid me along' until by and by I come to the conclusion. I have known but very few men in my life that were really convinced by an argument—and no woman.

NOT WORDS BUT CLARITY

"Five. *Make it plain*. Oh, I wish I could go up and down the United States and scream that in everybody's ear, in capital letters, that has anything to do with the public. Make it plain! I listened the other day to a celebrated metaphysician, one of the greatest minds in the world, one for whom I have profound respect, Mr. Maurice Maeterlinck. He got up to make a speech, in Carnegie Hall, New York, and he couldn't make a speech. You couldn't understand his words, and when you did understand them you did not know what he was talking about. It doesn't make much difference, if you have only a little bit of grain of sense, if you can make it plain, it is a joy forever. I would like to tell that to every preacher, to every lawyer that gets up before a jury, for God's sake, make it plain. It is not the amount that you talk, it is the clarity of it. I would like to say to the men who write these double leaded impossibilities on the inside of newspapers, called editorials, make them plain, and somebody will read them. Nobody reads them now.

NAMES AND FACES

"Sixth commandment. *Remember names and faces*. My name is Crane. It is not Grain. It is not Green. It is not Johnson. It is Crane, and I am sensitive about it, too. It is all right for you to forget the name of the president of the United States if you want to. You can even forget Mr. Dempsey's name. You may call the mayor of Chicago Carter Har-

rison if you want to. All that is amusing to me. Ha! ha! ha! but don't you go misfiring on my name because I am your customer, and the universe revolves around me. When I stand in the middle of the landscape anywhere, as Proctor Knott says, the horizon comes down at equal distances on all sides. Don't forget my name.

"You have got to reckon upon that trait in every human being. It is more or less concealed in most of us, but it is there in every one of us. I am not just a customer. 'Oh, yes, you are the man that came in,'—nothing doing. I AM MR. CRANE. I am not just the tall man, nor the gray-headed guy, nor something of that kind. I am George W. Me. That is me. You want to have a personal knowledge of me. That costs you but very little, even if you have to get a notebook and check up every night over the people you know and put down the characteristics of them: 'I remember that man. He has a hook nose. That man says he is an Irishman, but he looks like a Jew. I remember him.' You can make an intellectual caricature of every human being that you do business with. Do it if you have to, and when you meet him say, 'How do you do, Mr. George W. Me. I am glad'—not too strong, but you know what his name is, 'Oh, yes, how is your wife getting along? Did she get over that operation she had? And those boys. I tell you I'd like to see that boy of yours. I'll bet he is a fine fellow.' All that stuff goes you know. You say that it is cheap. Of course it is cheap, and the beauty of it is that while it is cheap, you can sell it for thousands of dollars.

ONE OF THOSE EFFICIENCY FOOLS

"I know a man that lost \$50,000 the other day because he didn't have any slush in his pocket to hand out. He went to a man's office. This man was one of those efficiency fools, you know. He was so infernally efficient that he had the chair over at the other side of the desk where the customer sits, screwed down to the floor so that he couldn't hunch up on him. This gentleman came in prepared to give him \$50,000 worth of business. He got in his chair and he went to hunch it up and it wouldn't hunch and he got up and with a stream of profanity left the office. He lost that job for being so efficient.

"Just remember that. Remember my name, my personality. I am a human being, you know. I am not just one of a class. I am a proper noun, not a common noun. A little flattery goes with every human being in the world.

"I remember dear, darling old Arthur Dixon. A good many of you here knew him. He was a good example of that, and everybody loved him for it, even if you didn't like him for other things you liked him for that. You couldn't help it. I remember one day at the Union League Club when I was there with William P. Williams. A good many of you knew him. Looks like everybody I knew in Chicago has died. He is dead, too.

ARTHUR DIXON OF CHICAGO

"Williams and I were standing in the club door talking and Mr. Dixon came up to me and said, 'Well, well, how's the bishop?' I said, 'Why, I am not a bishop, you know, Mr. Dixon.' He says, 'Well, you ought to be.' He turned to Mr. Williams who was then in charge of the sub-treasury and said, 'How is the Treasurer of the United States of America?' 'Oh, not the treasurer, Mr. Dixon, just the sub-treasurer.' 'Well, you ought to be the treasurer.' Now we laugh. It was a joke, but you know we never forgot it. We just felt good.

"It is just as easy to say the thing that makes you feel good as the thing that makes you feel bad, and the beauty of it is there is money in it. Don't forget that.

"Seventh commandment: *Remember your social position*. I might say, moral position. What I mean is this: You

know we get in the habit of dividing people of the country into two classes, the people on the right side are among the sheep. The better class, we'll say morally, are the preachers and the doctors and the lawyers and the school-teachers, and the others of this kind, these men who are supposed to have a certain duty to society. That comes out in their actions a good deal. You know we don't give preachers wages. We give them honorariums which is usually a name for a smaller wage than you manage to get if you call it wages. A good many of the doctors have that same feeling. It is hard to get a doctor to tell you how much he is going to soak you for taking out your appendix. 'Oh, that will be all right. I am an agent of society. I have got moral obligations,' and all that sort of thing. The school teacher is the same way.

MORAL OBLIGATION OF BUSINESS

"On the other side are the business men, and they are supposed to be out for the stuff only. No moral obligation at all, just pure Philistines. We are finding out we are all wrong, that really it is the business men, the men that buy and sell, that bring the produce of the world to the mouths and backs of the people, that touch the moral qualities of the people ten times where these other people touch them once. We are developing a great demand in this country for the business man, with a sense of his moral and social obligation.

MY NAME IS HAMLET

"Eight: *Don't be egotistic.* I am to be egotistic. I am the customer. Obliterate yourself. Don't run yourself down. Don't run yourself up. Let yourself alone when I am around. You know all the actors are hungry for the spotlight, and they are very angry when somebody takes their part away from them. When I walk into the store my name is Hamlet. I want all the actors to circulate around me. It is easy enough. Humor me. You humor the children, don't you? Then why not humor customers? 'Kid 'em along.' Maybe you will get something out of him.

"Ninth commandment: *Think success.* Every act is nothing but a thought that flowers out to the budding of your soul. It is what you think coming out in the thing that you do. Think success! If the thought of failure comes to you, just put it away. It is just as easy to think one thing as another, and the secret of every man's success in the world is in whether he thinks he can control his thoughts or whether he thinks they must control him.

"It is just as easy to think a million dollars as it is to think fifty cents. Why not do it? Of course I recognize there is a good deal of tommy-rot and nonsense about this thing of just thinking a thing makes it so. I don't mean that, but I mean this, that if you can't have success you can have the air of success. You can put it on, and between you and me, four-fifths of it all is that. Just try it and see.

BE HUMAN

"Tenth commandment: *Be human.* If a catalogue would sell goods, every house would use catalogues. The only reason they have a man is because a man is the best catalogue in the world. He is human, and it is the human quality that counts. Learn how to have a sense of humor, if you haven't any. I am the garden that you want to cultivate, and it is the garden to be cultivated by humanity. Be human. Take an interest in human things. Don't take an interest in anything that is not human, and thus you perform the greatest good in the world."



"If you would be wealthy think of saving as well as getting."—Benjamin Franklin.

Says Increased Freight Rates Will Not Create Market for Securities

While urging substantial freight rate increases for railroads, R. C. Fulbright, of Houston, Tex., representing the Southwestern Industrial Traffic League, told the Interstate Commerce Commission on June 15 that the rate increases alone would not solve the nation's transportation problems and that the full 31 per cent. increase asked by Western roads was not necessary. He said that the root of the revenue problem lies in the market for railroad securities, and increased rates will not create a market for securities.



A Material to Use With Solid Brick Masonry

In meeting with brick, every possible demand for tight, economical side wall construction, it is important for the brick industry to know about the Par-Lock process, which is the property of the Vortex Manufacturing Co., of Cleveland, and applied by its licensees, located in the principal cities of the country.

It is claimed that Par-Lock seals a wall against air, moisture, and stain; that it is an insulator against chill; and that it affords an ideal surface over which to plaster with gypsum hard plaster, still more effectually preventing chill and the attendant condensation of any interior moisture.

It consists first of a heavy coating of asphalt, applied with a pneumatic gun under high pressure at normal temperatures. Into this coating, while soft, is embedded a coarse rock grit, by means of a special pneumatic sanding appliance. Within 36 to 48 hours the asphalt has hardened to a point where plastering can be undertaken. Brown and finish coats of gypsum plaster are then applied to a total thickness of $\frac{3}{4}$ inch to 1 inch.

The insulating value of gypsum against external cold and heat is known. Par-Lock, it is said, performs the double function of affording an adequate bond for a heavy coating of gypsum plaster and supplementing it with an effective air-stain and damp-proofing all at a small fraction of the cost of furring and lathing, which it obviates entirely.

The importance of Par-Lock to the brick industry lies in the fact that it is said to dispose of the objection of undue expense sometimes raised against solid brick bearing walls. Also it makes possible the use of solid brick headers in curtain walls of building tile.



Manufacturing Shows Signs of Falling Off

A summary of national conditions corrected to date in the U. S. Bulletin of June 14, states that for the first time since 1914, manufacturing shows signs of falling off; orders in many lines are declining and in some lines cancellations are becoming frequent; there are, as yet, no signs of over-production; high prices, lateness of the season, transportation congestion and unsatisfactory crop prospects are checking retail buying; textiles and shoes are especially affected; exports are still very large, but a decline in exports and a large increase in imports may be expected soon.



"A group of college students were intent on discovering, if they could, how the old professor (whose physical impairment prevented his lying down at night) said his prayers upon retiring. His retirement was in an old-fashioned rocking chair and provided the only physical comfort to which he could adjust himself. Their cavedropping thru the transom of his door gave them this message as the lights went out: 'Thank you, Lord, I'm glad we're on the same old terms—good night.'"

FINE CERAMIC MANUFACTURE



A Department Devoted to Practical Problems in the Manufacture of Higher Grade Ceramic Products Such as Whiteware, Including Electrical Porcelain, Floor and Wall Tile, Sanitary Ware, etc., as Well as Stoneware, Terra Cotta, Special Refractories and Other Articles Where High Grade Clays Are Employed in Their Fabrication.

Bisque Sanitary Ware in a Car Tunnel Kiln



HARD WORK and stick-to-it-iveness is what ultimately made the car tunnel kiln installation at the Great Western Pottery Co.'s plant at Kokomo, Ind., successful. When the kiln was first completed, considerable difficulty was met with in its operation, largely due, perhaps, to the fact that its working principles were entirely different from that of periodic kilns which had previously been used to burn sanitary ware at the above plant. However, those in charge never lost faith or confidence in the wisdom of their choice and finally after getting a better understanding of the working principles have found the proper application and as a result they came out ahead and are now satisfied that they "have the best tunnel kiln on the market."

The installation at the above plant, which is one of the many factories operated by the Standard Sanitary Manufacturing Co. of Pittsburgh, is an open or direct-fired type of railroad continuous tunnel kiln such as is designed by the Didier-March Co. It is of regular design and 297 feet long. The tracks are loaded with twenty-three pieces of ware placed in sagger and the kiln's capacity is 12 to 16 trucks per 24 hours.

There are sixteen gas producer burners located on each side of the kiln, twelve of which are used for firing. The difference in temperature between the first and last burner amounts to approximately 200 deg. Thus there is only gradual increases in temperature as the ware passes thru the firing zone. The pyrometer registers a temperature of about 2,170 deg. Fahr. at the hottest point altho cone ten is tipped over in the burning. The kiln is used only for bisque firing, the glazed ware being burned in the regular periodic kilns.

To make the gas for the kiln consumption, two International Clay Machinery Co. gas producers are employed. When the installation was first made, the gas from both producers was permitted to combine by entering a common flue and this flue was later divided to feed both sides of the kiln. Better results are now obtained by connecting one producer with one side of the kiln and the other producer with the other side. Eastern Kentucky coal is used for gas making. The fuel requirements are eight tons of coal per twenty-four hours. This is a reduction over the amount required formerly for periodic kilns, the total saving amounting to over five tons of fuel per day.

The labor requirement of the kiln to produce the capacity

of approximately 350 pieces of ware per day of twenty-four hours, is as follows:

Two men are required to push trucks, two gas makers, one for day and one for night and a helper for each, a day fireman and a night fireman and an extra man to take care of miscellaneous work about the kiln. This makes nine men all told. One of the vital points in the successful operation of the tunnel kiln, according to the superintendent, is the use of a reliable pyrometer system. Thermocouples are placed at regular intervals in the kiln crown and the fires manipulated so as to give certain temperatures at the various couple stations. These temperatures have been determined by experiment and have been found to be best for the most economical and successful operation of the kiln.

Since the proper system for operating the kiln has been determined there has been practically no difficulty offered and it works with great simplicity. Repairs have been exceedingly small and the big advantages gained are time and fuel saving. The satisfaction of the superintendent is expressed in his statement, that were he to building another kiln it would be the Didier-March car tunnel continuous kiln.



The British China-Clay Industry

There are signs that the china clay export trade of England is beginning to revive after the severe blow dealt it by the war and by the exchange and transport difficulties that have hindered its development since the armistice. No other country possesses deposits of china clay similar in character and essential qualities to those found in Cornwall and Devon, altho the United States, Germany, and Austria have developed their native white earths for use as a substitute for china clay in certain classes of goods. The total production of china clay in Great Britain before the war was approximately a million tons per annum, but the trade is capable of considerable expansion.

England is the only country that exports china clay, the white earths of other countries being in no demand outside their centers of origin, and only to a limited extent there. Roughly, two-thirds of the British trade is export. Of the total production of 964,000 tons in 1912 (the last normal year, 1913 having been the year of the clay strike) over 661,000 tons were exported. In 1917 the total production dropped to 508,152 tons and the export trade to 310,750 tons, while in 1918 the production dropped to 465,325 tons and the export to 232,464 tons. Last year the export rose to 286,543 tons. During the later months of the war the exports to Russia, Germany, Belgium, and the Netherlands, representing in 1914 over 177,000 tons, were wiped out except for 1,000 tons in 1918, and the exports to America had dropped by more than half—from 320,000 tons in 1914 to 152,000 tons in 1918.

REGAINING OF AMERICAN AND EUROPEAN TRADE

The utilization of American kaolins by manufacturers of the United States has been artificially assisted thru war-time freights inflating the price of English china clay, but with the gradual return of freight to normal the regaining of the

American market by British clay shippers is only a matter of time. Recent big shipments seem to point to this being the case. As the American market accounts for nearly half of the normal china clay export trade of the United Kingdom, and was actually more than half in 1914, it is important to the British industry that this business be recovered.

As to the European trade, here again the question of price may have a temporary influence against the recovery of some former markets, especially in countries which possess white earths capable of being used in certain classes of goods, but eventually the superior quality of English china clays will assert itself. Higher production costs in labor and material have forced up china clay prices to a figure to which exporters are making every effort to accustom their former customers, and the gradual rise in the export trade points to the success of their efforts.

CONTINENTAL STOCKS EXHAUSTED—THE HOME TRADE

The export trade has a lot of leeway to make up before it attains to the normal. In 1912 Russia took 45,000 tons, and there has yet to be recovered the pre-war trade of 94,000 tons to Germany, 67,000 tons to the Netherlands, 58,000 tons to Belgium, 45,000 tons to France, and 21,000 tons to Italy, let alone the 40,000 tons to other foreign countries and the 35,000 tons to British possessions. There is this encouraging feature—that all the stocks of china clay on the Continent are practically exhausted, and that the replacement of those stocks, apart from running supplies, must absorb large quantities in the very near future. (The annual exports of unmanufactured china clay from the United Kingdom to all countries since 1913 have totaled: 1913—629,703 tons, value \$3,617,902; 1914—628,620 tons, value, \$3,677,585; 1915—333,964 tons, value \$2,085,709; 1916—393,893 tons, value, \$2,567,069; 1917—310,750 tons value \$2,339,079; 1918—232,464 tons, value \$2,258,786; and 1919—286,543 tons, value \$3,712,843. For the first three months of the present year the shipments amounted to 90,236 tons, valued at \$1,186,419.)

The home trade also reveals hopeful signs. With the paper mills going at full blast to overtake a large accumulation of unfilled orders, the potteries busily engaged in meeting big demands from abroad, the "boom" in the cotton-textile trade, and the requirements of the chemical trades—all of which industries use china clay at some stage of their work—there is every reason for anticipating a revival approaching pre-war dimensions in the china clay trade of Great Britain this year.—*Commerce Reports.*



Notes on English Pottery Conditions

As a result of increases in selling prices of pottery sanctioned by the British Pottery Manufacturers' Federation, to meet the recent advance in workers' wages and the general increased cost of production, the cost of pottery has made the following advances over prewar prices: Decorated earthenware, 180 per cent.; white and other lower grade earthenwares, 210 per cent. In the china trade the increase in prices amounts to approximately 300 per cent. and even more in the case of lines which were badly cut before the war owing to German competition.

English potters are expecting further substantial advances in the cost of china clay and china stone starting about July 1. These are the results of increases in clay miners' wages, together with the heavy cost in transportation. This may make it necessary to make further increases in pottery goods.

It is stated that the demand for British goods continues to be practically unlimited and that German and Austrian goods are likely to be out of the running for foreign trade for some time to come. There has been a notable expansion of trade with France, which is now about six times that which

existed previous to the war. Japan, however, is offering English potters serious competition in certain parts of the globe.



New Construction Progressing Rapidly

The Lambertville Pottery Co., Lambertville, N. J., manufacturer of high grade sanitary ware, is making substantial progress in the erection of the new addition to its plant, referred to in a former issue of *Brick and Clay Record*. The extension is of brick and will allow for large increased capacity at the pottery. An enlarged pressing department will be installed, as well as boiler plant, offices and other departments of operation. The new boiler plant will consist of a 100 horsepower horizontal return tubular boiler, with auxiliary equipment, while a radial brick chimney will be constructed for the pottery by the Alphons Custodis Chimney Construction Co., New York. In the new slip house, formed in the basement of the building, excellent facilities have been provided for clay storage; individual bins, each about 16x32 feet, with capacity of four cars each have been constructed for different clays, as ball clay, English china clay, etc. The clay will be covered from the time it reaches the plant, and will be wheeled directly from the cars, under shelter, and dropped into the bins. Six kilns are now in service at the plant and it is planned to install two additional units. Andrew Faltz, president of the company, is giving personal attention to the new construction and installation, just as he does to practically all features of regular production at the works.



Will Rebuild on Larger Scale

The plant of the Western Potteries Co., at Berkeley, Cal., which was destroyed by fire a short time ago, entailing a loss of more than \$100,000, is to be rebuilt at once. The Pacific Plumbing Fixtures Co., owners of the company, have already given a contract for the rebuilding of the plant on a larger scale than before, with modern improvements thruout.



To Operate Plant in Los Angeles

The Homer Knowles Pottery Co., has been incorporated under Delaware laws with capital of \$750,000, to operate at Los Angeles, Cal. The company will manufacture general ware of various kinds. The incorporators are W. H. Halliwell and C. H. Blackmore, Los Angeles; and H. H. Knowles, East Liverpool, Ohio.



Will Build Nine-Kiln Pottery

The Taylor & Smith Pottery Co., East Liverpool, Ohio, is considering plans for the establishment of a new plant at Salem, W. Va. The proposed pottery will be started with five kilns, to be increased later to nine kilns.



Building Brick and Steel Garage

The Trenton Potteries Co., Trenton, N. J., has had plans prepared for the erection of a one-story, brick and steel garage on North Clinton Avenue, near Meade Street, to be used for company trucks and automobiles. It will be 67x76 ft., and is estimated to cost about \$10,000.



New Representative in New England

Edmund Henry has joined the Thomas Maddock's Sons Co., Trenton, N. J., manufacturer of sanitary earthenware, to represent the company in New England territory. He will succeed Howard Miller on the sales force.

Specialized Experience

Backed by 35 Years of
the

PROCTOR Principle

Covering
Correct Drying
Practice

"Proctor" DRYERS

READ THIS TWICE

*What Mr. Kerr has to say
about Proctor Stove Rooms*

The public is invited to correspond with the IROQUOIS CHINA COMPANY as to the superiority of the installation of our equipment.

Installation of four
Proctor Stove
Rooms at the Iro-
quois China Com-
pany's Plant, Syra-
cuse, New York.



IROQUOIS CHINA COMPANY
MANUFACTURERS OF
VITRIFIED HOTEL CHINA
SYRACUSE NY

May 18, 1920.

Ceramic Equipment Co.,
Trenton, N. J.

Gentlemen:

In answer to your inquiry concerning your machinee, we would advise that your machinee have been in continuous operation for the past four months and have proven most satisfactory in every way.

We have three machinee of type 115 and one machine of type 116. The machinee are very well constructed and have enabled us to materially increase our production.

A jiggerman working with one boy is able to make as much ware as he formerly produced with two boys. Working alone he can make 60% of his regular day. For example, on 7" plates our man is making from 180 to 200 doz. daily. The ware is dried with absolute uniformity and is ready for the kilns when it is taken off the machine.

It is unnecessary for us to say that we are very well pleased with this installation and are contemplating the installation of four additional machinee.

WK/G

Yours very truly,

W. B. Kerr
President

Proctor Stove Rooms—

Give an absolutely uniformly dried product.

Provide absolutely the proper circulation of heated air.

Cut drying time 50%.

Permit drying of more than one kind of ware at one time.

Will reduce floor space.

The Proctor guarantee goes with every dryer. Let us prove to you in detail what we say. Write today.

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1. The "Proctor" Dryer cuts the drying time from 50 % to 90 % over all other systems or methods.
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3. The "Proctor" Dryer cuts down all labor costs to a minimum.
4. The "Proctor" Dryer cuts down the percentage of waste to a point that is practically negligible.

PROCTOR AND SCHWARTZ, Inc.

Formerly Phila. Textile Machinery Co.

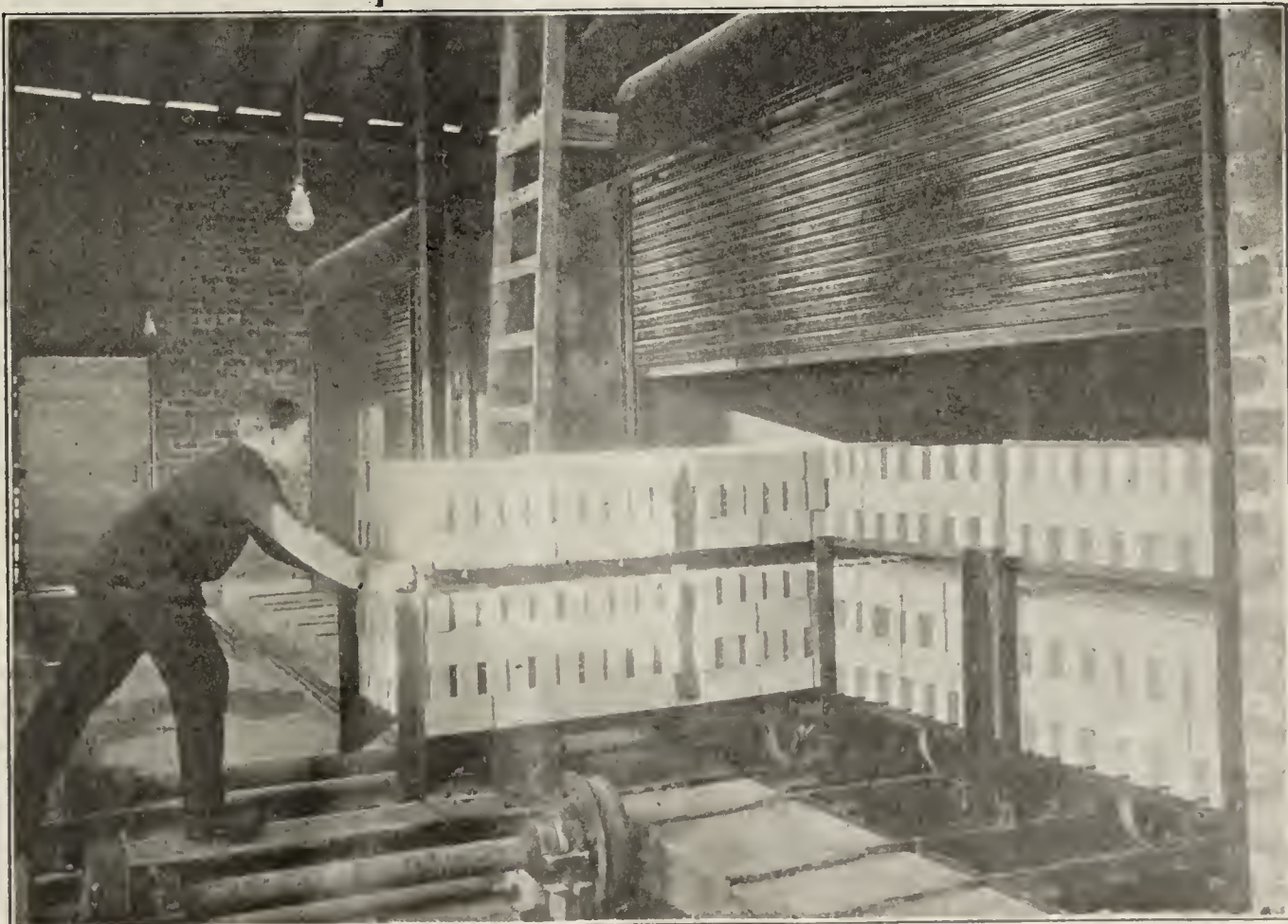
Philadelphia, Pa.

WHAT A TYPE B
"PROCTOR" DRYER
WILL DO IN YOUR
DRYING DEPARTMENT

There are many other points of superiority in THE PROCTOR DRYER and why they should be used by all Clay Product Manufacturers.

Let our Engineers give you complete information and data.

Type B "Proctor" Dryer installed at the Harwalk plant of the Harbison-Walker Refractories Company, Strasburg, Ohio. Curtain is partly raised and a car is being pushed into chamber.



The BUILDING SITUATION *in the* EAST

THE FREIGHT TIE-UP, labor demands and advancing prices are having their way in the eastern districts—and construction work is getting the “back-kick.” A slackening in operations is noticeable at practically every important city and records of a year ago, when building work commenced to take a turn for the better, show increase over the volume of work as now going forward.

The ultimate outcome is awaited anxiously by those in the industry, and it is simply a matter of guesswork as to just when things will rebound. There is one thing sure, and that is regardless of the acute need for buildings of all kinds prospective builders are going to stay out of the market until there is a decided change in the situation. The upward tendency of higher levels for construction materials must stop before mortgage money or other construction funds are made available, and likewise, labor must “come to earth” and be satisfied with reasonable daily wage.

What seemed destined to be a banner building season has given way to decreasing interest and activity. Manufacturers and dealers certainly have just cause for complaint, for helpless in the situation, they have been made to feel the brunt of all the trouble that has been going forward. The railroad conditions are improving, but the process of correction is certainly slow, and now the coal situation looms ahead as one of no mean scope.

But—hopes are still expressed by the big men of the industry in eastern districts that a month or six weeks will show a more stabilized condition with brighter prospects, and that this is much to be desired and earnestly hoped for is self-evident. The losses in the industry must be turned to profits, and it is up to the Government, the railroads and others to help in this essential work.

WHAT THE CITIES ARE DOING—NEW YORK

New York is gradually raising its head after the freight embargo which has so severely handicapped operations for the month or so past. Materials are being received in more sizable quantities, and dealers and others are showing a more optimistic attitude. That they believe in the future is certain, and it is actual stocks, coming and going, that will make this belief become a reality. The lag in construction work in the Greater City is attributed to the great scarcity of materials during the weeks past, and it is held that with supplies available increased operations can be anticipated.

Housing is the big need at New York and the past fortnight has shown a more decided disposition on the part of influential bodies to relieve the situation. The Mayor's Housing Conference Committee has been holding a series of meetings to develop definite plans for early action. The findings of this committee show a shortage of 160,000 apartments at the present time, and it is estimated that an investment of \$560,000,000 will be necessary to furnish the needed homes.

At a conference of this committee on June 16, some interesting opinions of prominent local bankers were brought to light. Walter Stabler, comptroller of the Metropolitan Life Insurance Co., set forth that the Federal income tax on mortgages, in his opinion, was slowly but surely driving money out of the mortgage market; this fact, taken with present building costs, indicates, he said, that the housing situation is reaching a crisis. His company, it was pointed out, has decided to restrict its loans to housing propositions and he urged that those in attendance do likewise; if the problem

is to be solved it must be largely thru the liberal lending of funds to people of moderate means for the erection of one, two or three-family houses. At this meeting a resolution was adopted asking for proper action by Congress and the State Legislature to relieve real estate mortgages from Federal and State income taxes on buildings used as homes.

A bright spot in the building situation in the New York district is shown in the operations going forward in Westchester County, including New Rochelle, Yonkers, Mount Vernon, White Plains and other communities. Here a literal “boom” is under way, and during the month of May plans for work totaling about \$1,000,000 were filed at the different cities. The bulk of work includes housing, and hundreds of homes are now in course of erection in this section.

NEW JERSEY

Thruout the different New Jersey districts the realty markets are active, but actual construction work is lagging. The housing situation is bad and but little is being done to relieve conditions. Anticipated plans of a month or more ago for big activities in this line have been held in abeyance until the situation improves.

Trenton is busy industrially. Numerous additions are now being erected by local factories and the call for materials for this work has been strong. The city, also, has been doing well in the matter of new brick homes and numerous developments of this character can be seen in different parts of the municipality. These structures are now nearing completion in the majority of instances, and the trouble is that as many more are not coming along, for as the winter season rings in once more, structures of this kind will be in keen call. Of any city in the state, probably, this community holds favoritism towards brick for house service, and the result is undeniably pleasing, with permanency in construction for the resident.

No enthusiastic reports are coming from Newark, which was forging ahead in such a substantial way earlier in the year. The past few weeks have shown a noticeable decline in operations, with corresponding weeks of 1919 now exceeding current totals. For the mid-week of June, the aggregate work totaled \$322,491, as compared with \$367,495 for the corresponding week of last year; for the preceding week, the work totaled \$320,716 as against \$408,797 for the same week of last year. Housing is at low status at the present time.

Thru the efforts of the Newark Real Estate Board plans are being developed for the erection of about 100 new houses in the city. Conferences are being held with prominent local bankers to secure funds for the project. It is said that 140 persons so far have signified their intentions of buying one of the homes—so the matter of selling is more than promising. It indicates the big demand for quarters hereabouts.

PHILADELPHIA

There is nothing very encouraging to report in the matter of construction work from the Quaker City. Situations must be faced squarely and fairly, and there is little use in stating that the outlook is promising when this doesn't appear to be the fact. The majority of construction hereabouts is now centered on very essential factory buildings and expansion of existing plants; other work is at low ebb. Housing is being neglected and simply spasmodic efforts being made in this direction. Concerted, definite action is much to be desired.

In discussing the local situation with a prominent Philadelphia builder, it is pointed out that a decided change has ensued during the past month in this territory. Contractors are again seeking work—a short time ago bids were hard to secure; dealers are out soliciting orders, and this hasn't been the case to any decided degree for some weeks past. In other words, the threatened slump is making trade interests get busy, and business is being sought. To what end it is going to be found remains to be seen, for the freight situation, demands of building labor and shortage of supplies have "hit" things pretty hard locally.

A bright spot at Philadelphia is the activity of the city itself. The municipal officials are getting busy, and public work to the amount of over \$7,000,000 is to be placed under way by the Department of Public Works. The projects include street work, new sewers and the like—improvements that will go far to inspire housing operations if local interests in this line will only follow along. The street improvements, alone, will aggregate more than \$3,600,000.

WILMINGTON

Wilmington, Del., is doing its best to hold its own in the line of construction operations, but it is rather "difficult pulling" in many respects. The tendency to build is not quite as predominating as it should be, despite the fact that structures of all kinds are in keen demand. The slackening of operations in the leather industry and decreased work at a number of the local leather plants has not been without a depressing moral effect.

Comments of those in the industry at Wilmington indicate that prospective builders hold to the opinion that the prevailing costs of labor and material are too high to warrant "going ahead." And, it seems just a case of waiting, altho there is no indication whatever of a decline in local material prices. Several important operations are now under way, including two banks, theater buildings and business structures. The proposed new school of the local Board of Education will not be erected immediately owing to construction costs, bids received exceeding the appropriation as planned; to relieve the school needs, it is expected to build a temporary structure.

BALTIMORE

Baltimore, Md., is holding to its construction record, and industrially speaking, there is nothing but optimism here prevailing. The housing operations are not, by any means, of like status, and no little concern is expressed when it is considered that constantly increasing industrial plants are bringing more and more people to the city, with no available homes or quarters to offer.

May building operations totaled \$4,146,700 at Baltimore, which, considering the handicaps thrown in the way of the industry is "some record." The work includes 265 dwellings, and of which close to 200 are to be of two-story, brick type. Plans for a large volume of work in the industrial districts were filed during this month, and there is still considerably more in sight. The Bethlehem Steel Co. has announced that plans are being perfected to expend about \$36,000,000 at its plant in the Sparrows Point section, making a total fund of \$86,000,000 invested by the company at this location.

A committee of the Merchants & Manufacturers' Association, Baltimore, has estimated that a total of 6,000 homes for industrial workers are needed in the city, and a proposition is under way to form district housing corporations, operated by industrial concerns, to carry out this work. It is proposed to raise a sufficient fund, \$500,000 or more, to inaugurate active work while the building season is at hand.

WASHINGTON

Housing construction continues at an encouraging pace at Washington, D. C., and the demand for homes of all kinds

maintains under increasing proportions. The work going forward comprises a considerable volume of dwellings of brick type, and which are very popular in this district. Not only is new building work holding interest and attention, but the local realty market is decidedly active these days. Real estate men say that the city is entering into a "boom" in this direction and prophesy banner weeks ahead. To make this possible means that new structures must continue to come along, so the entire outlook is one of particular satisfaction.

The District Commissioners at Washington will soon issue a call for bids for the erection of a new model hospital to cost about \$1,000,000; the fund has been arranged for and the structure will be named after the late Senator Gallinger, New Hampshire, a physician in private life. The structure will be located on Massachusetts Avenue. It is planned to continue the operation of the local "war hotels" constructed by the Government during the war period, and the proposition advanced to discontinue the structures after July is rather dying out. There are 18 buildings in full, with majority used by girl clerks in the Government service who secure accommodations at moderate cost. About 2,000 girls have taken advantage of the quarters offered.



The Brick and Burned Clay Markets

As soon as freight conditions improve and building commodities are available, as now the case in the different eastern centers, there has come a little lull in the matter of call. Materials are still in demand, as orders received by dealers show, and certain materials to an excess of supply, but the general trend is downwards rather than upwards.

In the matter of prices, just the reverse conditions prevail. The past week has shown advances in a number of basic commodities, and it is currently stated that the end isn't in sight. The truth of the matter is that this lack of stability in prices is one of the retarding factors at the present time, and if the present tendency continues there is likely to be a good supply of materials at high prices with no buyers. For months past it has been a seller's market and anyone who follows business records knows that this cannot continue indefinitely.

Light sales of common brick in the New York market are being recorded, the situation having remained practically stationary during the past few weeks. The price holds firm at \$25 a thousand, wholesale, alongside dock, while local dealers are asking \$30.75, delivered on the job in the first zone; this is an advance of 30 cents over the price that has been prevailing for some months past. A number of cargoes of brick have reached the city from the Hudson River points during the past fortnight, bringing a supply to the market that is well in excess of immediate requirements. From 25 to 30 barge loads now remain unsold, and as this is expensive, it is likely that shipments will be moderated until the amount on hand is absorbed.

Common brick prices hold at recently recorded levels in the different New Jersey sections. At Newark, dealers are asking \$32 a thousand on the job, the majority of distribution being Hudson River common. In the Paterson district, Hackensack production is now evidenced in large quantities, with prevailing figure around \$30. Trenton brick is showing an inclination to move to higher levels. The price at the kiln has now been established at \$27 for best grade material, while on the job figures are \$30. Philadelphia is also turning attention to increasing figures, and \$26.50 and \$27 is being asked for the best grade of common brick. Baltimore, Md., holds to a price of slightly over \$25.

Other burned clay products are operating under firm demand with well-established price levels. There is particular activity in various districts in the matter of vitrified sewer pipe, with a number of communities developing plans for ex-

tensive work in this direction. Dealers thruout New Jersey report a particularly keen call for this material, as well as drain tile and kindred specialties. Quotations are still "off" in the majority of cases in the matter of hollow building tile, with only figures those at time of delivery.



With the Brick and Burned Clay Producers

A number of Hudson River brick yards have commenced the burning of green material, and the prospects look brighter and brighter for a fair season's run. Labor continues to be a distressing factor in the situation and as activities increase the shortage is growing more and more pronounced. While production is considerably below normal, the stacks in sight would indicate that good stocks will remain after a shut-down in the late fall, and sufficient to care for all demands of the New York and adjacent markets. With 1919 production now being utilized, the present year's run will soon be available for distribution.

The Hackensack, N. J., brick yards are holding to active production and there is no thought given to any recession in operations by the prominent producers in this district. To be sure, the market has some of them "guessing", but they are willing to take their chances. A good call prevails for the material from different points in Northern New Jersey and the improved roads thruout this section are being used to advantage with prompt motor truck deliveries. The prevailing price at the kiln is now around \$27 for good hard common, while salmon varieties are selling for considerably lower—often a case of "what you can get."

The Hackensack Brick Co., Hackensack, N. J., is progressing with its annual season's run and producing a fine, high-grade brick. The company has been delivering a quantity of about 300,000 brick left over from last year's production, and which were all contracted for in matter of spring delivery. Six motor trucks have been used in this service and have proved their worth many times over. These machines are employed for deliveries many miles distant and have helped materially in holding up the reputation of the company for prompt service to customers.

The Sneyd Enameled Brick Co., Trenton, N. J., has been kept busy with a large volume of orders for its fine fire brick. The production at the plant is growing more and more efficient thru the adoption of improved methods under the guidance of Charles T. H. Phillips, head of the company, and who is constantly "on the job" at the plant. This company furnishes large quantities of refractories for different potteries in this district, and has lately purchased a new motor truck to handle local deliveries. In addition to fire brick production, departments are maintained for the manufacture of enameled brick, tile and patent refractory blocks.

The Trent Brick Co., Princeton Avenue, Trenton, N. J., is planning for the purchase of new equipment to facilitate operations at the plant. It is proposed to install an industrial railway system with about 50 to 60 flat cars for the removal of brick from the pallet racks, as well as from the steam drying department used in the winter season. The system will lead direct to the kilns, with transfer cars at this point. A. W. Goulding is treasurer and in charge of operations.

The Connecticut Brick Manufacturing Co., Stamford, Conn., has been organized with a capital of \$50,000 to manufacture common brick. It is the intention to operate a plant in this district. The company is headed by W. E. Williams, president; Abraham Wofsey, secretary; and Samuel Zatzkin, treasurer.

The English China Clays Sales Corporation, New York, has been organized with a capital of \$500,000 to handle high grade china clays. The new company will represent the English China Clays, Ltd., of St. Austell, England, in this country,

and one of the prominent men of this firm will take up a residence in New York to act as treasurer of the new corporation, and handle matters pertaining to production, shipping, etc. The company has an output of about 500,000 tons per year. The president of the new sales company will be Sigmund Goldman, for the past 15 years in charge of the clay department of the Perkins-Goodwin Co., 33 West Forty-second Street, New York, which represent the West of England & Great Beam Clay Co., Ltd., in this country. Hilliard M. Gillespie will be vice-president, and Arthur H. Holbrook, secretary.

The Harbison-Walker Refractories Co., Pittsburgh, Pa., has perfected plans for the proposed increase in its capitalization from \$27,600,000 to \$36,600,000. P. R. Hilleman is secretary of the company.

The National Brick Co., Washington, D. C., is producing at greatest capacity at its plant at Terra Cotta. The company is enjoying a large volume of business and orders are on hand to insure continuous manufacture for many months ahead. No little loss was experienced in local brick circles recently by the passing away of James E. Granbery, president of this company, and one of the prominent figures in the industry hereabouts.

The Millington Clay Products Corporation, Millington, N. J., has been formed with a capital of \$30,000 to operate a local plant for the manufacture of burned clay products of various kinds. The company is headed by John T. Gillespie and Charles L. Crabb.

The Century Clay Co., Philadelphia, Pa., has been organized under Delaware laws, with capital of \$100,000, to operate clay properties. The incorporators of the company are George H. B. Martin, J. Vernon Pimm and E. M. MacFarland, all of Philadelphia.

The Hiwassee Shale Brick & Tile Corporation, Hiwassee, Va., recently incorporated with a capital of \$150,000, is planning for the erection of a local plant for the manufacture of building brick, hollow tile and other burned clay products. The initial works is being designed for a capacity of about 35,000 brick per day. John S. Draper is president of the company, and T. A. Ireland, secretary and treasurer.

The Ellok Corporation, Buffalo, N. Y., has been organized with a capital of \$100,000 to manufacture tile products of various kinds; a phase of operation will be devoted to the production of a patented tile. F. W. Person, J. G. Davis and C. A. Yost head the company.



Paying Rent

Some kind of home you'll have to own, a humble shack of brick or frame or one of stucco, mud or stone, if you would beat the landlord's game. For long sad years I paid my rent and there'd be sunshine in my soul if I now had the coin that went to swell the landlord's gorgeous roll. The landlord owned a row of shacks, and every month he walked abroad left desolation in the tracks, and touched each tenant for his wad. I muttered as I dug the dimes, coughed up the sweat stained, hard earned seeds, "I've bought this coop a dozen times, and yet the landlord has the deeds." And when I fell and broke a limb, the landlord came to get the rent; there was no sympathy in him when I could not produce a cent. He said he didn't care a whoop for all my sufferings and sores; he fired me from that lowly coop and chased my weeping aunts out doors. There is no thrift in paying rent to landlords who have hearts of stone; far better have a canvas tent, and know the blamed thing is your own. You cannot borrow seven dimes on all the wealth you've paid for rent; on your own house, in crucial times, you'll get a loan from some kind gent.—*Exchange*.

The SUPERINTENDENT

Helpful Hints for Practical Men
Whose Problem is Maximum
Production With Minimum Cost

To Distinguish Steel From Wrought Iron

In the process of steel manufacture, manganese has to be added to the molten metal in order to make it possible to roll and weld it into pipe, while wrought iron requires no such manganese addition and therefore usually contains only a trace of this metal. To test for manganese place in a porcelain dish, preferably a small porcelain crucible, a clean, bright drill chip or some filings of the metal to be tested, about the size of a pinhead; add six drops of pure nitric acid, heat, add two drops of silver nitrate solution, then one crystal of ammonium persulphate not greater than one-eighth inch in diameter. Warm the solution, but do not let it boil. If the metal is steel, a pink color will begin to develop and at this point it should be removed from the source of heat, when a very decided red coloration will result. If no coloration develops, but a small amount of dark residue remains in the dish, the metal is wrought iron.

Care should be taken at all times to test only clean samples and to keep dirt or foreign matter out of the dish. If a thimble-size crucible is used, a match will supply sufficient heat for the purpose.

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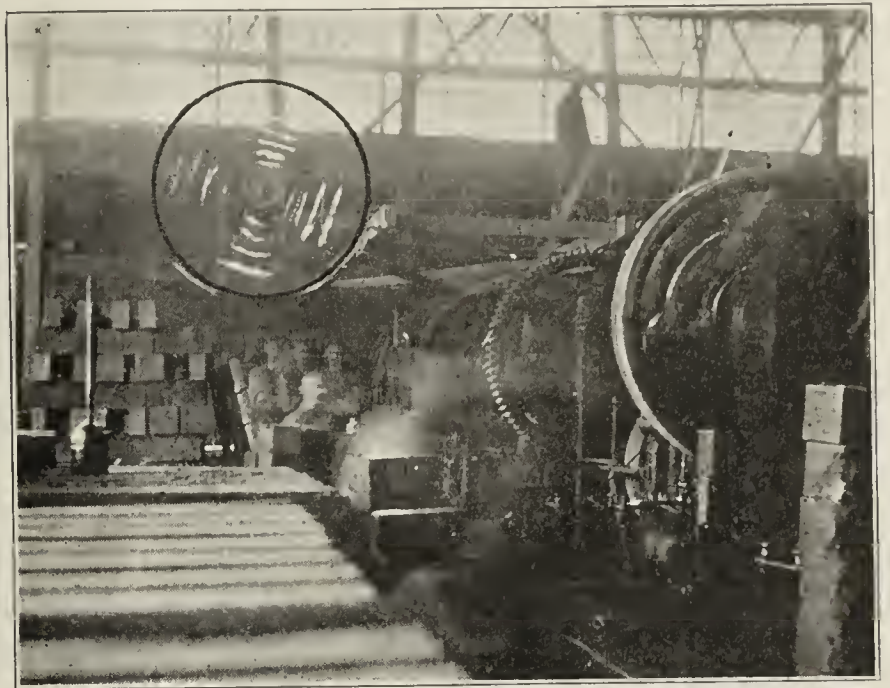
Look to Workmen's Comfort in Hot Weather

Now that we have the heat of mid-summer to look forward to, when "old sol" seems to delight in trying to make the mercury force its way out thru the top of the thermometer, it is well, especially with labor so "finicky" as at present, to look to means that will make conditions more bearable and keep the men in a better mood.

Starting with the clay hole, one can readily sympathize with the men laboring there because of their being entirely exposed to the sun while performing the hardest kind of manual labor. In many cases these men can be protected by a simple and comparatively inexpensive scheme which makes use of a piece of canvas to erect a pit tent. This is done by tying one side of a large square piece of canvas, of a size that is convenient, to the top of the bank at that point where the men are working and fastening the other side to stout poles at some point in the pit, just far enough from the face of

the bank to allow ample room for the passing of clay cars beneath it and for the men to work unhampered.

In the machine room the use of fans has been made with



Indicating Position of Fan That Adds to the Comfort of the Men Working in the Machine Room of a Brick Plant.

success by a number of plants. Frequently home-made affairs are simply attached to the shafting and the revolving shafting with the aid of the attachment produces a cooling breeze that is welcomed by the men. In the accompanying view, a fan is connected with a pulley on a repress machine and it is placed so as to propel breezes along the off-bearing belt.

The use of fans inside of a kiln for the setting gang is also advisable and can be done with little trouble. Canvas-covered runways for the wheelers and other simple schemes for making the workman more comfortable in the hot summer months are worthy of consideration and every effort should be made to provide more agreeable working conditions for the workmen.

✕ ✕ ✕

"A house can be rented but a home must be owned."

Burning Changes Clay Into a Rock

In burning clay ware we are bringing about a big change or transformation in the clay itself. We are changing the raw material from a soft to a hard product—thereby producing an artificial igneous rock. This is an extremely important undertaking when we come to think of it and emphasizes the care, thought as well as study that should be given to this process.

There are several very important changes that occur in burning, the first one of which is the expulsion of the water that is left in the clay mass after it leaves the dryer. Altho to all appearances a piece of clay ware seems to be dry as it comes from the dryer, there still remains in its mass, water which is known as mechanical or microscopic water.

A piece of clay ware that has been heated to 400 deg. Fahr., and is then placed outside in the natural atmosphere, will absorb moisture from the air. It is this water that gives trouble in the early process of firing and it is driven off during what is known as the watersmoking period.



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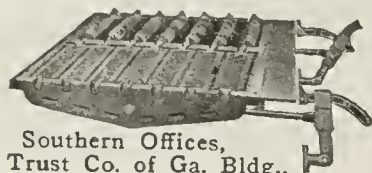
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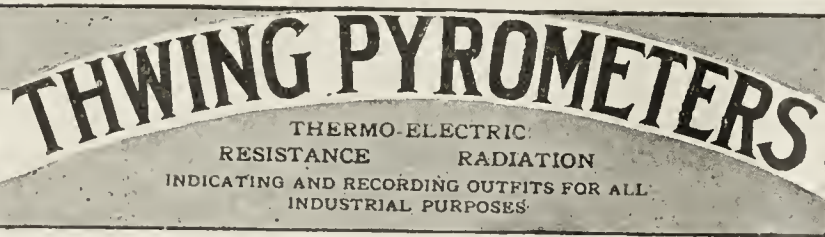
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Brick and Clay Record

610 Federal Street, Chicago, Ill.

IN *the* WAKE of *the* NEWS

Being Brief Mention of a Host
of Interesting Happenings in the
Varied Fields of Clayworking

Walsh Back in St. Louis

Julius S. Walsh, president of the Walsh Fire Clay Products Co., St. Louis, Mo., has returned from New York, where he spent the past several weeks.

Back on the Job Again

W. D. Brickell, president of the Ironclay Brick Co., of Columbus, which operates a large face brick plant at Shawnee, Ohio, has returned from a three-months pleasure and business trip on the Pacific Coast.

Howington a Delegate to Atlantic City

James Howington, general manager of the Coral Ridge Clay Products Co., Louisville, Ky., has gone to Atlantic City to attend the annual meeting of the National Rotary Club, as a delegate from the Louisville Club.

Old Brick Burner Dead

Wilson Puffer, 84 years of age, who in his younger days was noted as a brick burner, died at his home in North Orrington, near Bangor, Me., on June 2. He was employed in brickyards about Brewer, Me., for many years.

Bell Back from Short Business Trip

J. H. Bell, of the Louisville (Ky.) Fire Brick Works recently returned from a two weeks' business trip thru the East. He reports fair business on hand, and good orders. The plants are operating at full capacity at Louisville and Grahn, Ky.

J. H. Payne Heads Texas Ad. Clubs

J. H. Payne, vice-president of the Fraser Brick Co., Dallas, Tex., who has been president of the Dallas Advertising League, has been made president of the Associated Advertising Clubs of Texas. W. R. Patterson of the Keith-Patterson Motor Co., Dallas, succeeds Mr. Payne as president of the Dallas Advertising League.

Joins Ranks of the Benedicts

Leslie Brown, Trenton, N. J., prominently connected with Lenox, Inc., manufacturer of high grade china ware, as chemist and in other departments of production, was married on June 8 to Dorothy Jean Moore, Trenton. The wedding took place at the Cadwalader Heights M. E. Church. Mr. and Mrs. Brown left for an extended trip after the ceremony, which was followed by a reception.

Pottery Man Pushing Laudable Movement

As chairman of the Mercer County Health League, Charles Howell Cook, president of the Cook Pottery Co., Prospect Street, Trenton, N. J., manufacturer of electrical porcelain specialties, has been giving considerable time to the Kiddies' Camp, Park Island. This is a "pet hobby" of Mr. Cook's, and

the work is highly commendable. The camp is arranged for poor, unhealthy children, and under the jurisdiction of the League, about 50 children will be taken to the camp every fortnight for a two-weeks' outing. Even with business rushing at the pottery, as it is, Mr. Cook finds time to advance this laudable movement.

Celebrates Fifty-Sixth Birthday

Francis B. James, Washington, D. C., commerce counsel, well-known in legal and business circles in all parts of the country, celebrated his fifty-sixth birthday on June 16. Mr. James is handling the brick rate case before the Interstate Commerce Commission for the American Face Brick Association, the National Paving Brick Manufacturers' Association and the Hollow Building Tile Association. He was admitted to the bar in 1886, and in 1910-11 was counsel for the shippers in the general advance of rate cases of interstate commerce. Mr. James has written a number of books on the subject of commerce law. He is a member of the Ohio Society of Washington and the Chevy Chase Club.

Some Relief in Car Situation

The freight situation seems to be loosening up to some extent, altho it is impossible to get nearly the number of cars needed to move the brick which have been manufactured at the various plants. There is a shortage in San Francisco which is not being relieved to any appreciable extent. General building is going held up by the freight condition, altho some builders claim that the high cost of building is the main reason that more contracts are not being entered into.

Getting Away from the Old, and Into Modern Building Methods

The population of various California cities given out by the census bureau is of great interest in showing why there is so great a demand for brick in this territory. Los Angeles shows the largest percentage of increase, 80.3 or 266,282 in population while San Francisco proper shows an increase of 91,498, or 21.9 per cent. About the bay region, what is known as the San Francisco metropolitan district, the increase in actual figures probably equals that of Los Angeles, altho they have not yet all been announced. In the interior Fresno and Stockton are running neck and neck, the former showing 79.2 per cent. increase and the latter 73.3 per cent. increase. Both these cities are doing a great deal of building in the brick line. More complete statistics of the May contracts in this city show that brick and concrete construction total \$1,584,026, against \$707,109 for frame. The balance of the building contracts were for alterations. This shows how rapidly San Francisco is getting away from the old methods of building and into the modern.

Bids have been called for for the brick and hollow tile work in the Jefferson School, in San Francisco. It is estimated this will amount to about \$19,000.

Bids will shortly be called for the construction of a two-story hollow tile and reinforced concrete gymnasium to be erected by the Berkeley School Department in that city at a cost estimated at \$185,000.

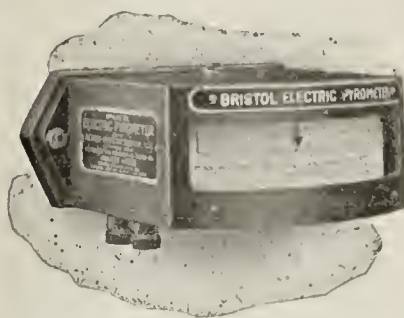
The contract for the brick work on the Lincoln School, to be erected in Berkeley by the board of education of that city, has been awarded to Mealy & Collins of San Francisco for \$52,770.

Bonds of the amount of \$9,500,000 to finance the construction of new schools and improve standing structures carried at a recent election at Los Angeles. Of the total the board of education plans to spend \$6,000,000 for new elementary schools and \$3,500,000 for high schools.

The City Planning Commission of San Francisco is urging

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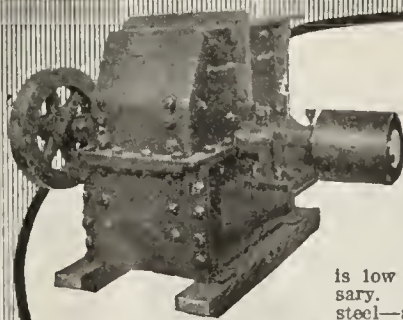


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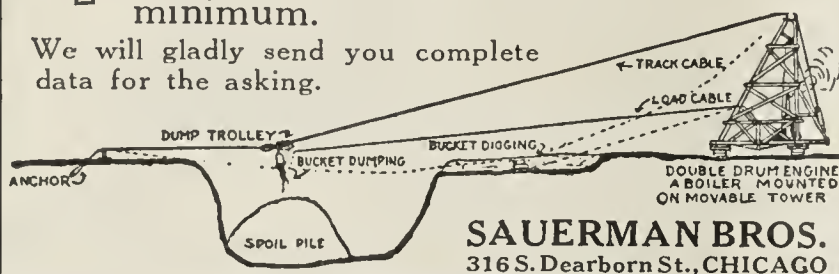
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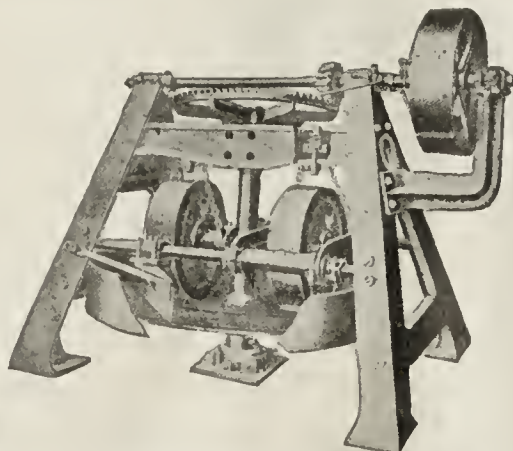
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TRI-STATE ENGINEERING COMPANY

Zanesville, Ohio

THE EAGLE DRY PAN



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EAGLE IRON WORKS DES MOINES IOWA

a zone ordinance for this city, and the passage of such an ordinance will have the effect of concentrating brick and concrete buildings in two or three of the zones which it is proposed to establish.

A contract has been awarded to Totten & Trehwhitt, Stockton, for two one-story brick and hollow tile schools to be erected at Tracy, Cal. The bid was \$29,038.08.

Bids have been called for the brick and terra cotta work for the Edison School at Fresno, Cal. Estimated cost is not given.

Supplying Brick for Local Buildings

The Grand Junction (Colo.) Brick & Tile Co. has delivered the last of a large kiln of brick, burned recently, which is to be used in the erection of an addition to the high school building and in a new manual training department building at the high school. The company is now setting another kiln of brick which will contain probably 150,000, to be used in the erection of buildings in Grand Junction, the demand for this product being far greater than the available supply.

It is stated that but for the Grand Junction Brick & Tile Co., building would be at a standstill this season as brick are not to be had at any other point over the slope. All of the brick made in Delta and Montrose are being used in Delta.

\$50,000 Brick Corporation for Stamford

The Connecticut Brick Manufacturing Co., of Stamford, Conn., has filed incorporation papers with the secretary of state at Hartford. The company will have an authorized capital of \$50,000. The incorporators are Samuel Zatzkin, William E. Williams and Abraham Wofsey all of Stamford.

Students Helping Out on Brickyards

The difficulty in securing sufficient help to operate Connecticut brickyards at capacity has been partially solved, at least in the vicinity of New Britain, by an influx of students seeking vacation work. The majority of the students seeking employment are men who are working their way thru school and they are finding no difficulty in getting places.

Argillo Works Takes Charter from State

The Argillo Works, of Rock Island, Ill., incorporated on June 12 to manufacture clay products at Carbon Cliff, and to take over the company of that name heretofore unincorporated. The incorporators are: Mary E. Robinson, Frederick Titterington and F. K. Rhoads, all of Rock Island. The capital stock is \$200,000.

New Incorporation at Corbin

The Corbin Brick Co., Corbin, Ky., capital \$30,000, has been chartered by G. F. Weaver, J. O. Martin and R. B. Kelsey.

Louisville Manufacturers Busy

The brick manufacturers and jobbers of Louisville, Ky., report a steady run of good business, with production well sold up, some manufacturers reporting that they are sold up almost fully for the next three to four months.

The Coral Ridge Clay Products Co. reports that it is still having trouble in securing cars for shipments, especially out thru the state, altho for local delivery it isn't having so much trouble.

The coal situation is serious, and as a result of steel and public utility companies bidding up prices of gas coal, high grade Eastern Kentucky and West Virginia fuels are costing \$9.50 and \$10 a ton at the mines. The only relief in sight is adequate car supply, which isn't especially promising. Under

the new rules of the Interstate Commerce Commission that gondola cars may be used only for coal for a period of thirty days some relief is promised.

J. H. Bell, of the Louisville Fire Brick Co., in discussing the situation said: "Securing coal is a serious matter at the present time, especially for the manufacturer who has made contracts which have to be filled at a price, and where coal has advanced \$5 a ton or more since the time of making the contract. It is a time when the brick manufacturer must be very careful concerning contracts, and some of them are likely to be severely hurt on big contracts taken on a low margin. The steel people have forced up the market and the other consumers have to pay the price."

The P. Bannon Pipe Co. expects to have its new plant in operation about July 10, having made nice progress on the work during the past month. The temporary plant is getting out about seventy-five per cent. of the normal production, and will continue in operation after the new plant starts.

A. P. MacDonald, of the P. Bannon Pipe Co., in discussing business said: "We are almost fully sold up for the next three or four months in some departments, and have a fine season in prospect." Mr. MacDonald recently returned from a trip to Chicago, and prior to that spent a week in Eastern Kentucky with the Boosters' Party of the Louisville Board of Trade, which was out on a trade extension trip with a special train thru the mountain district.

Fighting New State Housing Law

Business continues good in Louisville, Ky., there being a steady volume of business from the small home builders, and some larger business, altho most of the bigger jobs are being held up at the present time due to shortage of ready cash and high prices. One or two proposed additions or new bank buildings have been held up as the bankers can use capital to such advantage at this time that they much prefer waiting for a duller period.

There has been practically no apartment houses started this year, as the apartment house is an investment proposition, and building today is on the quick turnover basis.

A considerable number of building and loan companies have been steadily increasing their capital stock in order to take care of the heavy demand for money from home buyers. Out of thirty new corporations or old ones filing amendments with the State Department a few days ago, six were building and loan companies which were increasing their capital.

At New Albany, Ind., the Chamber of Commerce has announced plans for aiding in financing home building and buying, where the builder can put up sufficient cash to assure his carrying out of his contract.

In Louisville the Louisville Contractors Association, Real Estate Exchange, Builders Exchange and others interested in building operations have started a fight on a new state housing law, which prohibits erection of homes with windows on the sides where a four-foot air space is not provided on one side and a ten-foot space on the other. It is held that under this law many small lots are useless, and that many buyers of lots on installments with purpose of erecting homes, will be unable to carry out their plans. The law went into effect on June 15, and on June 14, more than seventy permits were issued for small homes, at a cost of \$200,000, as many took advantage of the last day of grace in which to secure their permits.

Fire Damages Bridgewater Plant

Three buildings at the brick manufacturing plant of Ernest L. Cook, at Bridgewater, Mass., were destroyed by fire on June 9 and the entire plant was for a time in danger. Mr. Cook estimates his loss on the burned buildings and their con-

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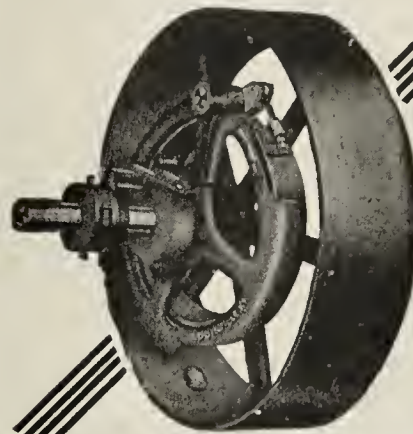
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ONE MAN DIGGER for the CLAY and TILE PLANT PIT

Designed especially to handle material for the average brick or tile plant.

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BRICK AND CLAY RECORD

tents at \$15,000. Firemen fought the flames nearly five hours before they were controlled. The fire started back of the boiler in the boiler room and was discovered by Engineer Robinson about 3:15 p. m. It had obtained a good start and it was soon apparent that the employers could not control it and a call was sent for the town fire department. From the boiler houses the flames spread to a carpenter shop and a large storage shed, all of which were burned down. About fifty men have recently been employed at the Cook plant and altho the destruction of the buildings will curtail the output the men will be kept busy about the kilns and in clearing away the debris from the fire until new buildings can be erected.

Flint Second in State in April Building

Flint led the state of Michigan outside of Detroit, in building operations for April, according to statistics compiled by the "American Contractor" and received by E. C. Shannon, Flint city building inspector. Valuations were reported as \$2,027,430; a year ago, \$591,900; a gain of 244 per cent.

Bay City was next with \$722,450, last year \$9,700, an increase of 648 per cent.

Saginaw reported building valued at \$580,648, as against \$108,803 in April, 1919, or 433 per cent.

Grand Rapids reported \$552,803 in April, 1920; \$268,699 in April, 1919, increase, 109 per cent.

Kalamazoo reported \$370,750 in April, 1920, and \$96,100 in April, 1919, an increase of 285 per cent.

Jackson reported \$172,215 in April, 1920, and \$144,550 in April, 1919, an increase of 18 per cent.

Lansing was the only city in the state to show a loss, which was 6 per cent. Building in April, 1920, was reported \$270,967; in April, 1919, \$293,360.

Detroit reported \$12,397,535 for April, 1920, and \$4,610,391 for April 1919, an increase of 171 per cent. In percentages Detroit was fifth in the state.

Construction Shows Surprising Gains

More brick was used in St. Louis in the last two weeks than at any time since the start of the building season, according to a manufacturer's estimate. Altho in midseason, construction has shown some surprising gains recently and manufacturers of building supplies believe that it will continue to increase until the close of the season. Apathy on the part of builders and the continued demand for dwellings and apartments are causing investors to place their money in building projects, particularly in apartments.

St. Louis Shipping Situation Improved

The shipping situation in the clay products industry in the St. Louis district is greatly improved over what it was two weeks ago and the first sign of a steady movement of shipments is evident. The arrival of material and coal from the Southern Illinois belt has shown remarkable improvement and many plants, which curtailed production during the crisis of the shipping stagnation, are once more operating at full strength. However, St. Louis concerns are far behind with their orders and many shipments for western buyers are still en route, altho they were on the tracks at the plants a month or more ago. The lines to the southwest, where St. Louis clay products manufacturers are finding buying the heaviest, are in good shape and deliveries are being made by many firms with almost normal speed.

Thermopolis to Have Brick Plant

It is reported that C. H. Finley, of Lander, Wyo., intends to put in an up-to-date brick plant on some land he has secured in Thermopolis, Mont., and will have the plant in

operation within thirty days. It is stated that a good brick plant is needed in Thermopolis and there is no reason why a proposition of this kind should not be a money-maker. Mr. Finley has secured the contract for the brick that is to be used in the new county high school building.

Big Demand, Low Supply

There is still a good demand for common brick in Central Ohio territory and the supply is still scarce. Considerable remodeling work is being done and also some factory construction. Prices for common brick range from \$24 to \$28 for shale, all delivered on the job.

Report Improvement in Car Situation

J. M. Adams, general manager of the Ironclay Brick Co., Columbus, Ohio, reports slightly better shipping facilities, altho many shipments are still delayed because of car shortage. The B. & O. R. R. is now giving a better supply of cars than formerly and as a result a considerable volume of business is being done at the plant. The concern is operating its plant at Shawnee on full time.

Little Space Left for Storing Face Brick

Demand for face brick in Central Ohio territory has fallen off materially during the past few weeks. This is due largely to the tight money market which has effectually stopped many building projects. Manufacturers have many orders booked ahead and so far there has been comparatively few cancellations. Production is going forward at most of the plants, altho some have little additional space for the storage of brick. The coal supply is still short and as a result some of the plants have been compelled to close down. There is no sign for improvement in the coal supply.

Ask for \$5,000,000 for School Building

According to estimates prepared by Architects D. Riebel & Sons, the school building program, contemplated by the Columbus (Ohio) Board of Education, will mean the expenditure of \$5,000,000. This estimate was made by the architect and Superintendent Francis upon the request of the board. It is planned to ask the voters at the August primaries to approve a bond issue of that amount. The program includes the erection of a Central Technical High School at a cost of \$1,000,000; a North High School at a cost of \$1,100,000; South High School at a cost of \$800,000; an East High School at a cost of \$800,000; Lincoln Park School at a cost of \$265,000 and four elementary schools to cost \$250,000 each.

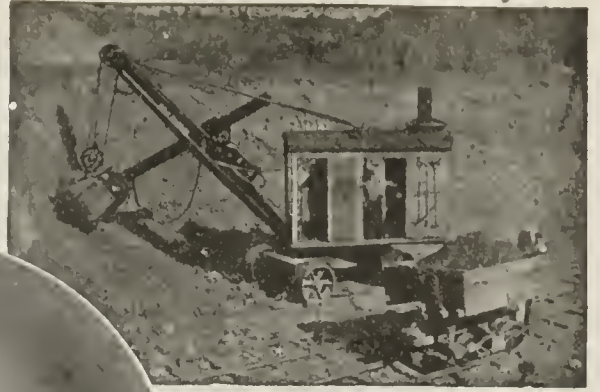
Fear Will Have to Close Plants

Brick manufacturers and dealers are still up against it as far as shipping facilities go. At least this is the bulk of the reports received from manufacturers and dealers in brick and other clay products in Central Ohio territory. Cars are still scarce and orders are not being filled promptly. In fact, some of the manufacturers in Ohio are seriously contemplating closing down their plants as they have such a large supply of brick on hand that will require five or six months to ship, especially if shipping facilities are not bettered. So far no large face brick plants have been closed down for that reason, altho some action along that line is expected in the near future.

Maximum Production Curtailed by Lack of Fuel

Lack of cars and fuel alone hold back maximum production at the Cleveland (Ohio) Brick & Clay Co., which has about completed the rebuilding of its plant in the southeastern sec-

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Speeding up Production of Face Brick these days is necessary in order to supply the demand.

Coal is very scarce—Hard to get. All indications point to a general shortage for some time. The coal you can get must be utilized to the best advantage.

Would it pay you if you could burn more brick—a few million per year—with the coal you can get?

It can be accomplished by the continuous system of burning on your down draft kilns. Foremost is the MINTER SYSTEM—Because WE HAVE COMPLETE CONTROL, guaranteeing No. 1 ware production.

Let us show you how.

**The Flint River Brick Company
ALBANY, GEORGIA**

tion of the city. Practically all the new equipment, including the crusher, electric shovel, hammer screen or separator and similar devices, all making for an ideal brick plant, has been installed. The plant will be confined to standard paving brick production. Arrangements have been made for a 65,000 daily production, but insufficient coal and lack of cars with which to make shipments is holding the output down for the present, according to A. L. Hendershot, secretary and manager. As with other plants in this district, the Cleveland is having less difficulty in obtaining labor, tho the cost of this item is as high, if not higher, than it has ever been.

Cleveland Hard Hit by Coal Shortage

What is believed to be the worst coal shortage in the history of the community now threatens the clay industries in the Cleveland, Ohio, district. During the first week in June surplus supplies of all coal had diminished to the vanishing point. Prospects for immediate relief were practically nil. It was estimated that 2,000 separate establishments, most of them depending upon power from the illuminating company, would be forced to close in three days.

Meanwhile the brick and tile manufacturers have been hit hard, and some have started to close their plants. Among them is the Denison Interlocking Tile Corporation, which, according to Bert J. Graham, general manager, will suspend the production of 150 tons a day. This will not only mean a loss of business, but a loss in material prepared for burning. Tho cars to the plants of this firm have improved in number, coal shipments have not.

An equally serious factor that has developed to affect brick and tile production in this district has been the sudden increase in price of coal, making it 100 per cent. higher at the mines than it was prior to June 1. In the opinion of leading brick and tile interests in Cleveland, it looks as tho the coal interests have deliberately taken advantage of the acute situation.

Conditions among paving brick manufacturers seem to be somewhat reversed, according to reports coming to headquarters of the National Paving Brick Manufacturers' Association. There is no hint of any paving brick plants shutting down immediately. Enough coal to last for a limited time seems available. On the other hand, there are not nearly enough cars to carry the finished product to points where it is required on the jobs. As most plants have no undue difficulty in obtaining fuel, and as labor has eased up somewhat, actual production of material itself appears better, in the Ohio territory at least. It is the belief of plant operators that immediate relief from the car shortage is necessary, or some shutdown in this division of the industry will occur. Meanwhile a certain amount of caution is being exercised by paving brick manufacturers, in that few will go into the winter with heavy stocks, owing to the uncertainty of production costs.

Pittsburgh Situation Critical

Conditions in the clay products industry in Western Pennsylvania, Eastern Ohio and Northern West Virginia are anything but satisfactory. Plants are suspending operation every day and what threatens to be the worst brick and tile famine in history is rapidly developing. The cause is of three-fold—labor disputes, lack of railroad cars and unprecedented coal prices. Building and paving brick and backup tile are advancing sharply, and, according to distributors and manufacturers, will continue to advance.

Many of the brick and tile makers are on the verge of quitting business because of the long inactivity of their plants and the heavy overhead expenses. It was reported in Pittsburgh on June 18 that the Pennsylvania Clay Co. would suspend wholly or partially on account of the lack of railroad

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cars to ship its products, and the ridiculous prices being demanded for fuel. Other large plants in this part of the country are known to have shut down and others are planning to do so soon. The government has been asked to take a hand in the matter as regards the car and coal situation.

To aggravate the situation, the bricklayers have now gone on strike. They are demanding \$1.50 an hour, an increase of 25 cents an hour. There are unconfirmed reports that the tile workers also will lay down their tools if their demands for higher wages are not met.

In the meantime, the lumber industry, which is just beginning to recover from the hardships it suffered as a result of the railroad strike, is cutting prices right and left, thus taking away a lot of business that was originally intended for the brick and tile industry. For instance, more than 1,000 houses about to be built were to have been of brick and tile construction, according to the original specifications, but after waiting several weeks in the hope of getting sufficient of these materials to go on with the work, the plans have been changed calling for frame instead of brick structures.

There is practically no brick at all moving now. The brick manufacturers have received no cars to speak of for many days. Municipal and county governments have announced indefinite delays in contemplated street, road and sewer improvements because of the lack of brick and tile.

A letter has been sent to the government making a strong appeal for a federal inquiry into the situation. A committee of those interested in the manufacture of brick and clay products has been in Washington for some time trying to impress the government with the seriousness of the situation, but thus far has accomplished nothing, according to the reports it has sent back.

The adverse conditions now prevailing come at a most critical time; they come at a time, say manufacturers, when clay products makers were enjoying the greatest period of prosperity on record. Instead of their business showing a nice surplus at the end of 1920, they declare, there will be in no few instances deficits of irreparable character.

The pottery manufacturers are having their share of the trouble, too. Some of them are being compelled to pay as high as \$9 a ton for steam coal; and they, too, have neither sufficient railroad cars nor labor. The strike which closed down so many big potteries in the Zanesville district several weeks ago has not yet been wholly adjusted, altho many of the strikers have returned to their work as individuals.

Only government action—drastic government action—can bring about a remedy for the whole situation, say the manufacturers. There are ten or twelve congressmen trying at once to get the government's ear on the matter. The railroad car situation is deplorable. Coal distributors attribute the extraordinary high price for coal to the absence of railroad cars, which, they claim, is responsible for the suspension of many mines.

Take Exception to Cost Figures Printed

Local builders in Reading, Pa., take issue with articles published recently to the effect that the cost of a brick house building has nearly tripled within the past several years. These articles, which have appeared in several newspapers and magazines, in other cities, give figures intended to show an increase of about 150 per cent. in the cost of a two-story brick house in May, 1920, as compared with September, 1918. Leading builders in Reading declare that the increased cost today over 1918 for a modern twin house, built with brick, is less than 50 per cent. in Berks and surrounding counties.

"In 1918 a twin house, with seven or eight rooms and attic, could be built in Reading and Berks County for \$3,750," said Frank S. Gery, vice-president of the Glen-Gery Shale Brick Co. "The cost of building a house of this type today is \$5,200.

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Of Every Description

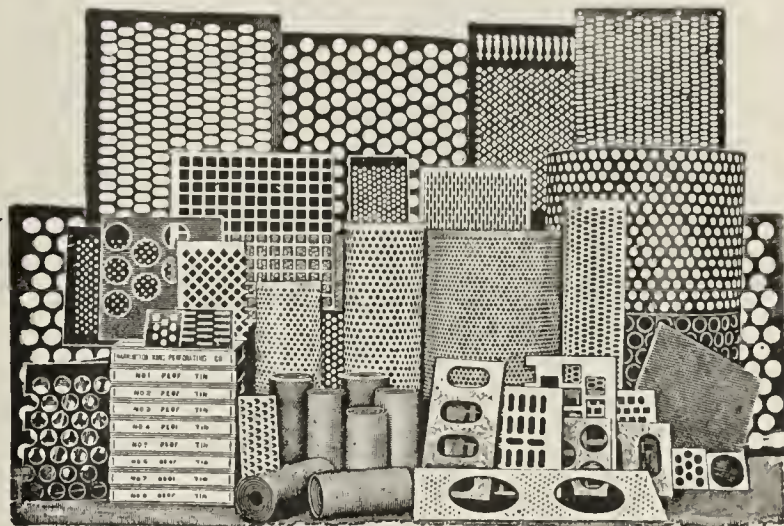
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No Other Screens Will Give You Equal Capacity,
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You can safely guarantee that your brick will be

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You can get a higher price and influence architects to specify your product because Efflorescence is prevented absolutely.

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This is an increase of less than 50 per cent. The last lot of six-room houses built in a solid row in Reading was in 1915. At that time the cost was \$2,600. Today an operator is building homes of this kind for \$4,200. Here we have an increase of 60 per cent. for a period of five years.

"A modern brick house, 25 by 25 ft., with all improvements and a good-sized lawn and backyard, cost \$4,600 back in 1918. Today this house costs \$6,900, an increase of 50 per cent. This is a most desirable type of house."

For the purpose of reassuring prospective home buyers, who are apt to be discouraged by reports that brick house building has increased 150 per cent. in the last two years, the local contractors have quoted the figures presented above. Builders point out that when one considers the advance in the price of materials and labor, the difference between the cost of a house today and several years ago is by no means out of proportion.

Brick Plant Begins Operations

The Spurgeon-Gettys Brick Co. commenced the manufacture of brick at its plant on Broad River, Gaffney, S. C., on June 13, it is reported, and expects soon to be running at full capacity.

Burns First Kiln of 100,000 Brick

The Crockett Brick Co., a new concern at Crockett, Tex., has completed its first kiln of 100,000 building brick, it is reported.

Dallas Capital to Build Plant

The Phoenix Clay Corporation is the name of a new concern which has a capital of \$200,000 fully paid in, to expend in the building of a modern brick and tile plant at Bridgeport, seventy-five miles from Dallas, Tex. C. W. Martin of Dallas is president of the company; T. M. Dees is vice-president and Eugene DeBogory is secretary. J. V. Montrief, a practical brick manufacturer of many years' experience is superintendent. The plant will have a daily capacity of 125,000 brick or 150 tons of tile. Offices will be established at 1215 Southwestern Life Building, Dallas, Tex.

Important Freight Rate Decision

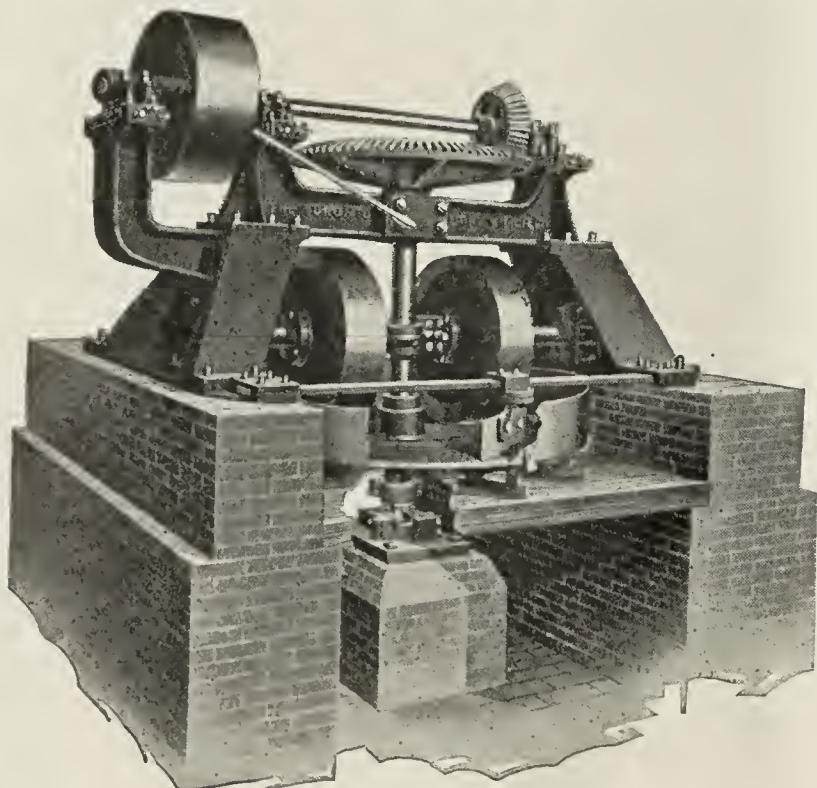
Manufacturers and dealers of brick and other clay products in Texas are much interested in the tentative decision of G. F. Graham, examiner for the Interstate Commerce Commission, the effect of which would be to establish locally within Oklahoma, Arkansas and Louisiana the same mileage scale of rates on Texas clay products as now applies between Texas points. It is expected that this decision will be approved by the Interstate Commerce Commission. It will remove a discrimination against Texas clay products, according to Ed. P. Byars, traffic manager of the West Texas Chamber of Commerce.

The matter was placed before Examiner Graham, of the Interstate Commerce Commission last January. Mr. Byars said that should the tentative decision be confirmed, as it is expected it will be, it will have the effect of making a general readjustment of rates on all brick and clay products, manufactured by Texas manufacturers, to adjacent states.

Mr. Byars said that all discrimination against Texas plants shipping into adjacent states is ordered removed, which will automatically have the effect of opening a much larger market for Texas clay products than has existed at any time heretofore.

"In addition," he said, "the railroads are ordered to refund, by way of reparation to the shippers, who asked it, a considerable amount of freight charges which were col-

MEANS GRINDING PANS



Type "B" Dry Pan, 9 ft or 10 ft. sizes

The rugged construction of our Pans insures long and efficient service with the least expense for upkeep. A large list of satisfied customers is evidence that our Pans are

BUILT RIGHT

We solicit your inquiries

Toronto Foundry & Machine Co.
Toronto, Ohio

lected on the higher rates in effect at the time the complaint was filed."

New Brick Company for Vancouver

According to Mayor G. R. Percival, of Vancouver, Wash., a new brick plant is to be erected in that city at once, on a 2¾ acre tract of land. The company will manufacture both fire and pressed brick.

Take Steps to Prevent Building Tie-up

The Building Trades Council of Spokane, Wash., has made agreements with the builders of that city whereby men who are not union men will be permitted to work on jobs during the rest of the year. This should do away with all possibility of strikes during the present year in the building trades. The secretary of the council states that it is not a recognition of the open shop principle, but in the interest of harmony and to prevent a general tie-up of the building industry.

Leases Plant—Will Take Vacation

C. B. Mayhugh, who for the past ten years has been general manager and superintendent of the Star Brick & Tile Plant, at Bay View, Wash., has leased the plant to L. E. Walker, who took full charge on June 1. Mr. Mayhugh writes that the plant will be enlarged with greater dryer capacity and additional kilns to take care of orders already booked. F. M. Gardner, formerly of Columbus, Ohio, is now superintendent of the Star plant. Mr. Mayhugh is now at Mount Vernon, Wash., but expects to make a trip to Vancouver, B. C., in the near future to look after some brick propositions.

Elect C. Schmiers as President

At a meeting of the directors of the Kewaunee Clay Products Co., held in Kewaunee, Wis., on June 7, C. Schmiers was elected president of the company to fill the vacancy caused by the resignation of R. J. McMahon, who only a short time ago succeeded Mr. Schmiers as president of the organization.

In speaking of future prospects, Mr. Schmiers said every indication points to an immense business in the manufacture and sale of brick and tile. The company has sufficient orders to keep the plant going at full capacity for some time.

Sewer Pipe Concern Incorporated

Soil Pipe & Fittings, Ltd., with head office at Three Rivers, Que., has been incorporated with a capital of \$140,000 to manufacture sewer pipe.

Business Brisk in Ontario

The clay products business thruout Ontario is very brisk at the present time. Coal shortage was a formidable problem until quite recently, but considerable improvement has been noted. The large operators were not closed down exactly but they had very little stock of coal on hand and in some cases brick were put in the kilns and it was necessary to wait for the coal for a few days before they were burned. Coal is not expected to cause anxiety during the remainder of the season.

The demand for brick is insistent all over the province. This is in contrast to other best years when a large percentage of the trade was centered in Toronto. Local business is very good at present and the outside business is very lively. Practically every town and city in Ontario is using large supplies and the manufacturers have to fill the orders that accumulated during the recent period of reduced production. There is no surplus over domestic requirements. Numerous inquiries have been received from American centers during the past few

ELEVATING MACHINERY

FOR
BRICK & CLAY
PLANTS

Complete bucket elevators with or without steel casings, buckets fitted to chain or belt. Shelf buckets, standard steel buckets, malleable buckets,—chain, etc.

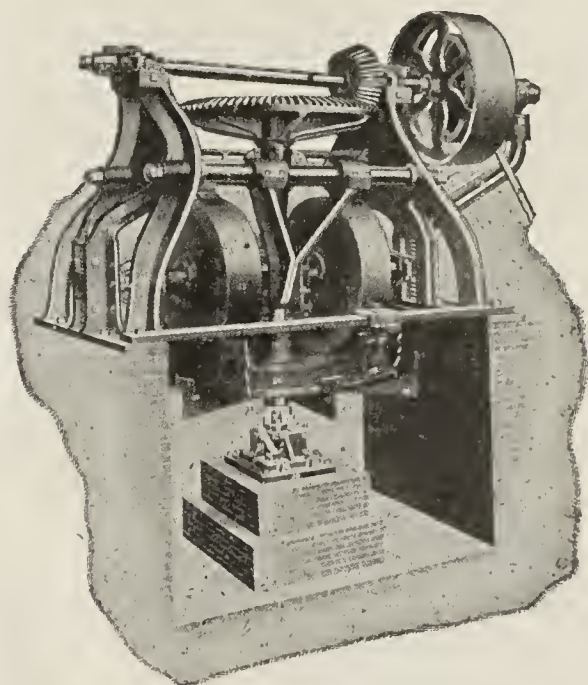


H. W. CALDWELL & SON CO.

CHICAGO, 17th St. & Western Ave.

NEW YORK
50 Church St.

DALLAS, TEX.
709 Main St.



Machines for

Crushing, Grinding, Pulverizing, Empounding, Tempering and Mixing, Elevating and Conveying All Kinds of Materials.

STEAM PRESSES FOR MAKING

Sewer Pipe, Drain Tile, Hollow Blocks, etc.

All of the highest class designing and construction are manufactured by

THE STEVENSON COMPANY

General Offices and Works: WELLSVILLE, O.

Engineering and Western Sales Offices, Monadnock Building
CHICAGO, ILLINOIS

The BURTON GASOLINE LOCOMOTIVE

*Hauls it
Economically*



IT MAKES no difference how much or how far you have to haul your clay, BURTON LOCOMOTIVES will solve the problem.

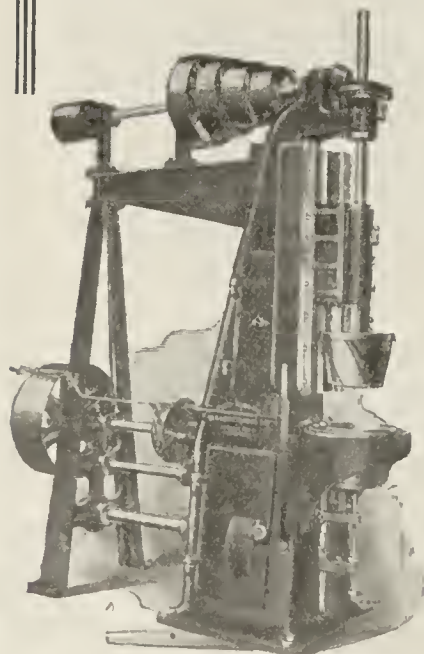
Always ready. No breakdowns with their consequent loss of time and heavy repairs. Built to haul efficiently, rapidly and cheaply. Easy to operate by anyone. No gears, sure control.

Write for complete
descriptive catalog.

The Burton Engineering & Machinery Co.
Cincinnati, Ohio

ARE YOUR PROFITS AS LARGE AS THEY SHOULD BE

or are they cut short for the reason you are using moulding machines in manufacturing Flower Pots, Nozzles, Insulators, etc., that are not dependable in speed and turning out quality and uniform ware?



Let us tell you how the Baird Moulding Machine will show you a way to more profit and success in the specialty business.

Send us a sample of
your clay with inquiry

**BAIRD MACHINE
& MFG. CO.**

265-69 Jefferson Avenue E,
Detroit

weeks, some involving several million brick. However, the construction work in Ontario is sufficiently extensive to take the entire output of the brick plants and this precludes export on a large scale.

Erection of new factories and extensions to old ones is accountable for a large share of the demand for brick. Construction of residences is also being rushed all over the province, and the opinion is that there will be an under-supply.

* * *

Domestic Graphite for Crucible Use

The Bureau of Mines has recently issued Bulletin 112, "Mining and Preparing Domestic Graphite for Crucible Use," by G. D. Dub and F. G. Moses. The work covered by this bulletin was undertaken in connection with the war minerals investigations of the bureau.

Before 1915 nearly all the graphite used in crucible manufacture in the United States was imported, chiefly from Ceylon, Madagascar and Korea. Little domestic graphite was used, that mined being chiefly employed for the manufacture of paint, lubricants, foundry facings and other purposes. Not only was most of the graphite imported, but also all the clay used in crucible manufacture, this clay coming from Klingenberg, Bavaria.

As a result of clay imports from Bavaria being entirely cut off by the war, crucible makers had to turn to domestic sources of clay. The clay problem was soon well in hand, it being found that domestic clays could be obtained that compared favorably with foreign clays.

The use of domestic flake graphite in crucibles, however, in proportions of more than 25 per cent. mixed with imported graphite was not attended with much success.

However, the domestic graphite mining and milling industry expanded rapidly under the pressure of war conditions, being aided by a request of the War Trade Board on August 10, 1918, that crucibles manufactured during the balance of 1918, should contain 20 per cent. domestic flake and 25 per cent. thereafter. At the end of the war there were 39 graphite plants in Alabama, 3 in New York, 5 in Pennsylvania, and 3 in Texas.

The graphite investigations of the Bureau of Mines covered three phases: (1) Field examination of the graphite deposits in the states mentioned, and a study of the methods used in mining and preparing graphite for market; (2) Experimental work on the concentrating and refining of crucible graphite to improve the quality of the product and lessen waste; (3) Experimental work in crucible manufacture to determine the properties of domestic flake and the maximum proportions that might be used without impairing the qualities of the crucibles.

The present importance of these investigations lies in the fact that the domestic industry, if it is to survive the competition of imported graphite, which can be mined and prepared more cheaply than domestic flake, must rely on improved and more efficient methods of producing and preparing graphite. Also, for full extension of the market to domestic producers, crucibles made entirely of domestic flake of nearly all domestic flake, in combination with domestic clays, should be developed.

The bulletin mentioned above outlines the results obtained in the first two phases of the investigation.

The bulletin is in two parts: the first part describes the methods of mining and milling used, suggests a standard method of sampling finished graphite, and describes a rapid and convenient method of analysis developed at the Pittsburgh station of the bureau, which has been assigned the analytical work and microscopic work. The second part de-

scribes experiments on the concentration and milling of graphite, made at the Salt Lake City station of the bureau.

The experimental work on crucible graphite, which was assigned to the Columbus station, will be described in a separate bulletin to be published later.

Copies of Bulletin 112, "Mining and Preparing Domestic Graphite for Crucible Use," may be obtained free of charge by addressing the Director of the Bureau of Mines, Washington, D. C.

* * *

Savings Should Be Safely Invested

A terrific arraignment of the reaction and waste which have seized on the American people as a cause for the present economic evils now threatening the nation was made recently by R. C. Leffingwell, assistant secretary of the Treasury in an address before the Academy of Political Science at New York. Liberty Bonds and Victory Notes, he said were never meant to be used as spending money and their misuse in that way is the primary reason for the fall in price of those securities.

"Since Armistice day," he continued, "the world has not only failed to make progress toward the restoration of healthy economic life but in fact has receded further from a sound position. We have failed to restore peace and peace conditions in Europe and in America, unsound economic ideas have in many instances prevailed and the effort is being made first here and then there to improve the condition of some of the people at the expense of all of the people.

"At this most critical moment in the history of Europe when our own financial and economic stake in Europe's affairs is so great that disaster there could only mean disaster here, many of our own people have turned gamblers and wasters. For plain living and high thinking, we have substituted wasting and bickering. We enjoy high living while we grumble at the high cost of living—of silk stockings and shirts for the poor, of automobiles for men of small means, of palaces for the profiteer and the plutocrat."

Regarding the depreciation in the market price of Liberty Bonds and Victory Notes, Mr. Leffingwell said: "In the history of finance, no device was ever evolved so effective for procuring saving as the Liberty Loan campaigns. A year ago, it was freely predicted by financial authorities that Victory Notes would shortly go to a premium and that Liberty Bonds would be selling at or near par within a year or two.

"Every one knows why these sanguine expectations have not been realized. With the armistice, and still more after the Victory Loan, our people underwent a great reaction. Those who bought Liberty Bonds as a matter of patriotism but not as investors, began to treat their bonds as so much spending money. Those who had obeyed the injunction to borrow and buy Liberty Bonds ignored the complementary injunction to save and pay for them. A \$50 bond in the hands of a patriot turned spendthrift was to him a \$50 bill to be spent Saturday night or to her a new hat and if the \$50 turned out to be a \$45 bill, small matter. This was the first and most immediate cause of the depreciation of Liberty Bonds."

Mr. Leffingwell declared that inflation since the armistice is attributable to world inflation and the internationalization of prices; heavy expenditures by our government and reaction and waste among the people.

"Our own prices are being inflated" he continued, "and our own banking and currency position expanded by feverish speculation in European currencies, credits and securities. The government of the United States has been slow to



Are Your Drying Cars Dependable, Long Wearing?

Conkey Drying Cars will stand the abuse because they are built for your particular needs. Made to fit right in with your plant equipment. We think of your every requirement in building your cars. Results: Long wear—no breakdowns.

Write for descriptive booklet.

H. D. Conkey & Company
Mendota, Illinois

Equip Your Kilns with SCHURS No. 1 DOWN-DRAFT KILN BURNERS

For quick burns and better colors.

The Schurs is the ONLY Kiln Burner provided with a hood to protect the low fire from strong drafts when water smoking. Different types of Burners for the various classes of kilns.

Write for Catalog

SCHURS OIL BURNER CO.
Los Angeles, Calif., U. S. A.

Sole Mfrs.



Note
Adjustable
Tip Hood

"Be Sure
it's
Schurs"

This burner will produce a light fire close to the tip hood or to the rear of the furnace as desired, with just a half turn of the tip at a time.

JENKINS Standard Iron Body Globe Valves



Know genuine Jenkins Valves by the name and the Jenkins "Diamond Mark"—obtain them through supply houses anywhere.

Also made in Angle, Cross Check, Y, Safety and other types. They are heavier and considerably stronger than most of the standard iron body valves. Regularly fitted with Jenkins Renewable Composition Discs. Wide yokes give easy access to the stuffing boxes which can be packed under full pressure when the valves are wide open. Raised Seat Rings are of high grade steam metal composition and can be removed and renewed. Suitable for 150-pound steam pressure.

JENKINS BROS.

New York
Boston

Montreal

Chicago
St. Louis

London

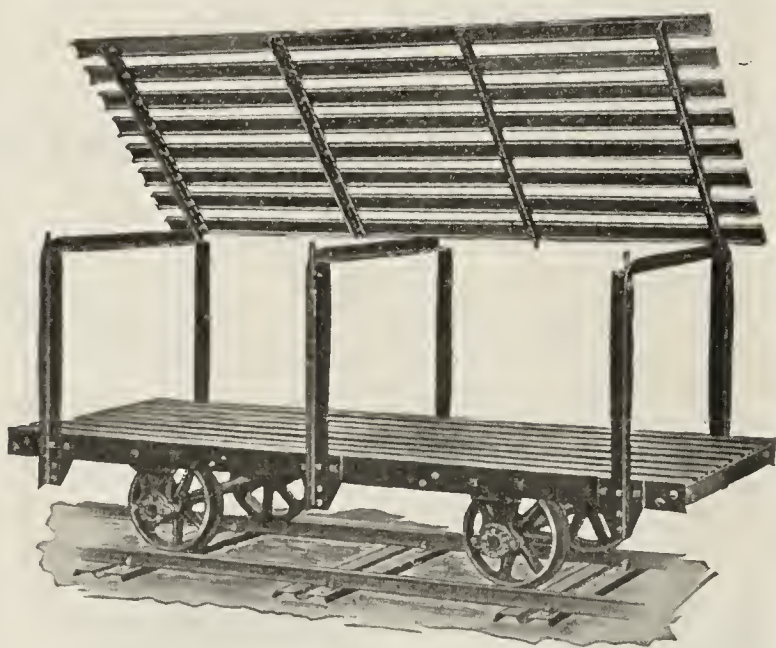
Philadelphia
San Francisco

Havana

Pittsburgh
Washington

Jenkins Valves

21-53-J



Lakewood Double Deck Car No. 167

The Robinson—LAKEWOOD LINE—Dryer Cars; correctly designed, correctly built, correctly sold.

Frank H. Robinson

Factory and General Office - - Pittsburgh, Pa.

realize upon its salvageable war assets and to cut down expenditures.

"Instead of telling the people frankly and boldly that prices are high because they are wasting, we fix prices and prosecute profiteers in order that the people may buy more and pay less. Instead of telling the people that Liberty Bonds have depreciated because they are treating their bonds as spending money, we clamor that the rate of interest upon the bonds is too low and urge a bonus to bondholders disguised as a refunding operation.

"We must get together, stop bickering and face the critical situation which confronts the world as we should a foreign war. We must cut our government expenditures to the quick, abjure bonuses and realize promptly on all war assets, applying the proceeds to the war debt. We must have a national budget with teeth in it.

"And above all WE MUST WORK AND SAVE. We must produce more, but more important still, WE MUST CONSUME LESS."

It might be added that it is not enough to save unless those savings are safely and profitably invested and it is for this reason that the Treasury Department has adopted the issue of savings securities, War Savings Stamps and Treasury Savings Certificates, as a permanent policy.

* * *

Labor's Inning

(Continued from Page 1275)

there is a strange corroboration in favor of the fair play deal, as seen in reports from various clay plants concerning labor conditions, received to date.

* * *

A Popular Delusion

THE ANNUAL FIRE LOSS on the clay plants of America is appalling.

On another page of this issue appears an article, "Immense Fire Loss Not Permitted," and in connection therewith are shown a dozen clippings from past issues of **Brick and Clay Record** concerning fires on clay plants. The total loss represented by these twelve clippings amounts to the amazing sum of **five hundred thousand dollars**. It is safe to estimate, on the basis of these figures, that several millions of dollars go up in smoke every year in clay plant fires.

"Covered by insurance," you say. "We should worry!"

Such reasoning is akin to that of the ostrich who sticks his head in a hole in the sand and says, "Now they can't find me!"

That there is a general misconception of the part which fire insurance plays in the business world, seems to be the case. Fire insurance is simply a lame effort to cover a loss which other-

wise would be disastrous—but, which, nevertheless remains a loss.

Most fires are believed to be preventable. Working on this theory the Brazil (Ind.) plant of the Hydraulic-Press Brick Co. has organized a factory fire department which to date has done yeoman service. It has demonstrated that not only can devastating fires be prevented but that continuous operation can be maintained and output continued in the steady stream, the loss of which oftentimes amounts to a great deal more than the actual damage done by fire.

Like everything else worth-while, the organization of a fire department takes a little time and patience and executive effort but it is worth all of the time and trouble it costs.

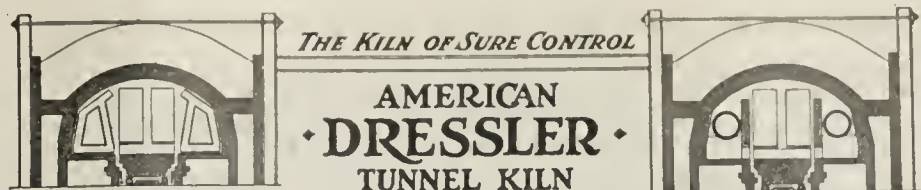
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Fire Brick Concern in Popular Magazine

While one cannot help but marvel at the progress in advertising that the clay products industry is making, particularly in regard to campaigns that include space in popular national magazines and journals, yet it is a still greater revelation and wonder to note the publicity work that a large refractories manufacturing concern has been carrying on. Altho the first appearance of full page advertisements for the Laclede-Christy Clay Products Co., of St. Louis, was made in the "Literary Digest" some time ago, we wish to point out at this time, how unanticipated this promotional work is. Unlike structural materials such as face and common brick, hollow tile and sewer pipe, fire brick is a specialized product and has a more limited use. However, even with its more narrow use, there are thousands of users of refractories and there is little doubt but that the plan is a worthy one.



Fac-Simile of a Full Page Advertisement Which Appeared in a Recent Issue of the "Literary Digest."



PENNY WISE AND POUND FOOLISH

is the man who continues
to pay more to

BURN BAD PRODUCT

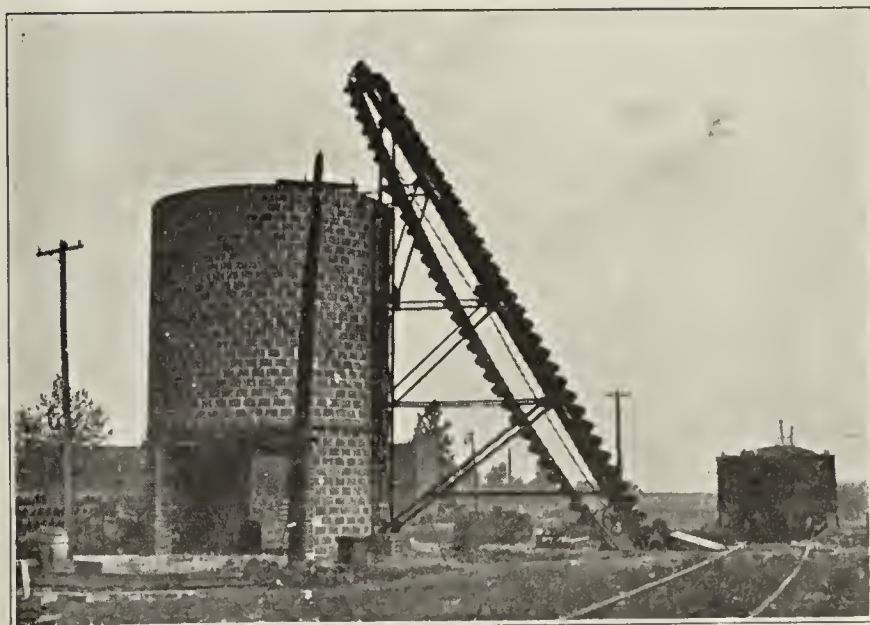
than to

BURN GOOD PRODUCT

American Dressler Tunnel Kilns, Inc.

171 Madison Avenue

New York City



55 Tons of Lump Coal Unloaded In 50 Minutes

That is what a Sunbury Automatic Car Unloader does in filling a coal elevator for the Krick-Tyndall Co., Manufacturers of Tile and Blocks, Decatur, Ind.

Think what it means to unload a car of coal, this day of car shortages and labor scarcity, in approximately one hour. It's real ECONOMY as well as co-operation in solving the great railroad difficulties.

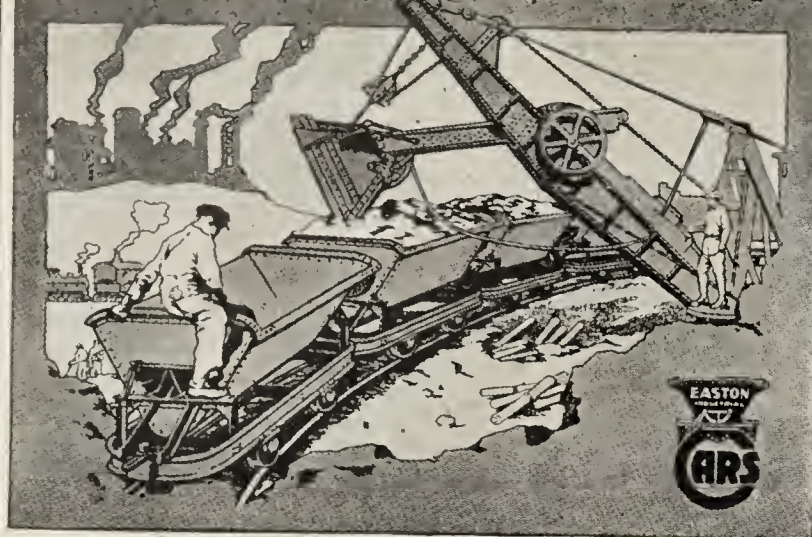
The SUNBURY UNLOADERS are now used by hundreds of industrial concerns unloading coal, gravel, stone, sand, etc., paying for themselves in a short time in the saving of time and labor.

Tell us your requirements and we will send you complete information including prices and specifications.

THE SUNBURY MANUFACTURING CO.
Sunbury, Ohio

EASTON CARS

for every Industrial Service



Easton cars stand up under overloads, careless treatment and the elements, alike to the full satisfaction of the boss who wants to make a good showing, and the gang which is trying to make a record clean-up.

Easton cars work *right* because they're designed by engineers who know from twenty-five years' experience what is needed in a car. They work *long* because they're made of good material by capable workmen. They save money because they fit the job.

Furnishing the right kind of a car is only part of Easton Service. All the rest of an industrial railway's equipment—track, switches, turntables and small parts—are included in Easton facilities.

Let our engineers help you. Their advice is competent—and free

EASTON CAR & CONST'N CO

45 Church Street, New York
Works: Easton, Pa.

Detroit Boston Chicago
Pittsburgh Philadelphia

2070-E

The SUPREME COUNCIL of BUSINESS

*Is It the Man with Money, the Man
with Executive Ability, or the Wage
Earner Who Is Supreme in Business?*

By Robert Falconer

WHO IS SUPREME in business? "I," says the man with money. "Without me no business can be done. Business depends upon capital, and capital is money. When I don't lend my money business is depressed. When I lend my money freely business is booming. The success of all business depends upon my money."

"I am the man who makes business really prosperous," says the man with executive ability. "Only when business is managed by me does it grow large, expand and result in the profits that encourage the man with money to invest his wealth in it. It is I who gather together thousands of workers and cause them to produce products at a lower price than they could otherwise be produced."

The wage earner says, "I am supreme. Unless I work all business stops. I am the most important factor in industry. At any time I can tie up all industry and cause everyone in the nation to starve. I am supreme in all business."

ALL THREE ARE WRONG

When the Pilgrims and the Puritans came to Massachusetts, they brought very little money with them. In fact they did not have enough for some time with which to carry on business. They, however, did lay the foundations for all the future great industries of New England. To a certain extent, they depended upon barter and trade. To a certain extent, they used the wampum, or the beads made from shells that the Indians used for money. They demonstrated that money is not entirely essential to the transacting of business, that money is not supreme.

If executive ability was supreme there would not be so many little concerns. There would not be so many men in business with little or no executive ability. The greater executive ability of other men would eventually result in a few great organizations transacting all the business of the world. This, however, is not the case. The little fellow continues to do business while big concerns grow so large that they lose their efficiency and crumble away. Executive ability is not supreme.

When workmen strike they do not stop all industry. If they did, they would starve themselves as well as others. They don't control business. They are not supreme any more than is capital or executive ability. There, however, are people who are supreme, who do control business. There is no appeal from their decisions. They are the people who buy goods.

THE PEOPLE WHO BUY ARE SUPREME

Every business depression is caused by the people who buy deciding that prices are too high. When the man with money increases the rate of interest at which he will lend it and continues to increase this rate, the time comes when people will not borrow it from him. They will not buy the use of it at the price he charges. As a result his money becomes valueless so far as business building is concerned. He must sell the use of it at a lower price or it will not be used, and it will not earn more money for him.

When the business man boosts his prices beyond a cer-

tain point, people cease to buy. No matter how great his executive ability may be, he must supply the goods at the prices people will pay for them and in the manner they demand them, or his business does not prosper. The people who buy are the ones who really dictate to him how he shall run his business. They are supreme.

When the man who works for wages decides that he must have more money, he makes demands for wage increases. If people are buying the product readily and it appears that they will pay more for it he is pretty sure to get this increase and it is added to the selling price. A time comes, however, if this process is continued, when people refuse to buy and the wage earner not only can secure no more increases in wages but he is not even able to secure work. The people who buy the goods even dictate the maximum wage for the wage earners. The people who buy are truly supreme.

MISTAKEN IMPRESSIONS CAUSE TROUBLE

It is the mistaken impression that the people who buy do not compose the supreme council of business that causes business men to fail, causes runs on the banks, and lack of work for the wage earners. Each one of these three classes is likely to feel his importance to far too great a degree. Each is too prone to believe that he controls the situation. Each is too greedy for all that he can get out of it. As a result the time comes when the men and the women who buy and use the products of industry take a hand. They refuse to buy and the whole house of cards that has been so carefully put together collapses.

People who buy can get along with less. They can use something else. They can, if necessary, go to the country and become entirely self supporting. There was a time when the King of England believed that the little colonies of America would have to buy from England, whether they wanted to or not. He was mistaken. They not only demonstrated to him that they could be entirely self sufficient in regard to business, but that they could be self governing as well. Any person, if driven to it, can live without the aid of any other person. He can raise his own food, he can build his own house, he can make his own clothes. It is only the people who buy things who are supreme. They are the ones who determine the prosperity of business.

HARD TIMES CAUSED BY BUYING PUBLIC

Hard times are always brought about by the buying public exercising its power. When it makes a decision not to buy all business slows down. Some businesses stop altogether. The buying public sometimes gives warning. At other times it does not. It has already rendered a decision. Every one must work to cut down prices. Every one must try to produce more, must think more of what he can do than what he can get or the buying public will decide not to buy and there will be no interest on invested money, no profits for the business man and no wages for the wage earner. The supreme council of business is now in session. It has issued its warning. It is now awaiting the action of the three elements of business which have been considering themselves supreme. This action will determine the sentence the council will pronounce. From this sentence there will be no appeal.

✱ ✱ ✱

"Yes, good roads cost considerable money, but good roads bring us greater business profits and added personal pleasures, and what is our money good for if it is not used to increase either our business or our pleasure?"

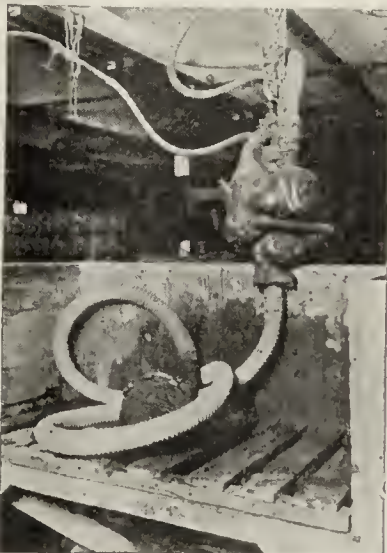
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"With a breath of new mown hay, the scent of flowers, the vibrations of atmosphere and the song of birds, a 'thank you' for God's great out-of-doors, is entirely in harmony."

PULSOMETER STEAM PUMP



"We pump these thick gummy grindings through our PULSOMETER"



The grindings from the abrasive wheel are conveyed to a collection pit. Mixed with a little water, this thick gummy substance is raised by the PULSOMETER and pumped through a line to an adjacent lot outside.

The PULSOMETER disposes of this material with practically no human assistance. The intake is dropped in the pit, the steam turned on and the pump works incessantly until the pit is cleared.

Because there are no cams, rods, pistons, stuffing boxes, no moving or sliding parts, the PULSOMETER is highly efficient in pumping gritty heavy substances—40% solid matter doesn't stop it.

You, too, can use the PULSOMETER and save time, money, and labor. Get in touch with the nearest agent or write us.

PULSOMETER STEAM PUMP CO.

Executive Offices
224 W. 42d St., New York, N.Y.

Agencies in the Following Cities:

Waldo Bros. & Bond Company, 181 Congress St.....BOSTON	Edelen & Co., 235 Commercial Trust Bldg.....PHILADELPHIA
Henry H. Meyer Company, 110 S. Howard St.....BALTIMORE	Beckwith Machinery Co., 108 Parkway, N. S.....PITTSBURGH
Queen City Supply Company, S. W. Cor. Elm and Pearl Sts....CINCINNATI	F. H. Hopkins Company.....MONTREAL
Beckwith Machinery Co., 1227 West 9th St.....CLEVELAND	Hunter Machinery Co., 208 Wells St.....MILWAUKEE
Liberty Steel Products Co., McCormick Building.....CHICAGO	Wm. H. Ziegler Company, 423 South 5th St.....MINNEAPOLIS
H. A. Paine, 119 Main St.....HOUSTON, TEX.	Berow Machinery Co., 220 West 42nd St.....NEW YORK CITY
Turner Supply Co.....MOBILE, ALA.	Harron, Rickard & McCone, 139 Townsend St.....SAN FRANCISCO
Miller Supply Co. HUNTINGTON, W.VA.	Shippers' Commercial Corp'n., L. C. Smith Bldg.....SEATTLE
Harron, Rickard & McCone, 225 S. San Pedro St.....LOS ANGELES, CAL.	Kelly Powell, Ltd.....WINNIPEG, CAN.

"The Colonel Speaks Up"



"See this brick; a beauty, isn't it? And this one and this?"

"Yes, Mr. Elcock," I said. "I must admit I never saw better brick."

"Two weeks ago today I made a cross country run in my car," he continued, "and visited a number of yards, getting a sample green brick at each place."

"Invariably, I was told of some peculiarity of the clay; that it was hard to burn; that it had to be water-smoked carefully; that it wouldn't color properly; that it flaked or chipped or something of the kind.

"Every sample you see here was burned in an Elcock kiln right here in a local yard along with its everyday run. Most of them were about ten courses from the bottom in a setting thirty-eight high and they are better, harder, more highly colored than their makers ever got even from the top of a kiln. From the time the first match was struck till the kiln was closed was a little over three days and a half.

"Do you catch what that means? These yards are wasting time, fuel, labor, equipment and material trying to burn brick the old way. Hundreds of others are doing the same thing. The total loss is tremendous and entirely unnecessary.

"For a very nominal sum, I can convert the ordinary round down draft kiln so that it will give results similar to the ones I've told you about. An out and out new kiln costs no more than the old style and soon pays for itself.

"Sounds too good, doesn't it? Well, all that I want is a chance to 'show' any man that is interested."

Just write: "What is your proposition?" to the

E L C O C K
QUICK BURNING SYSTEM
 Box 121 Florence, S. C.

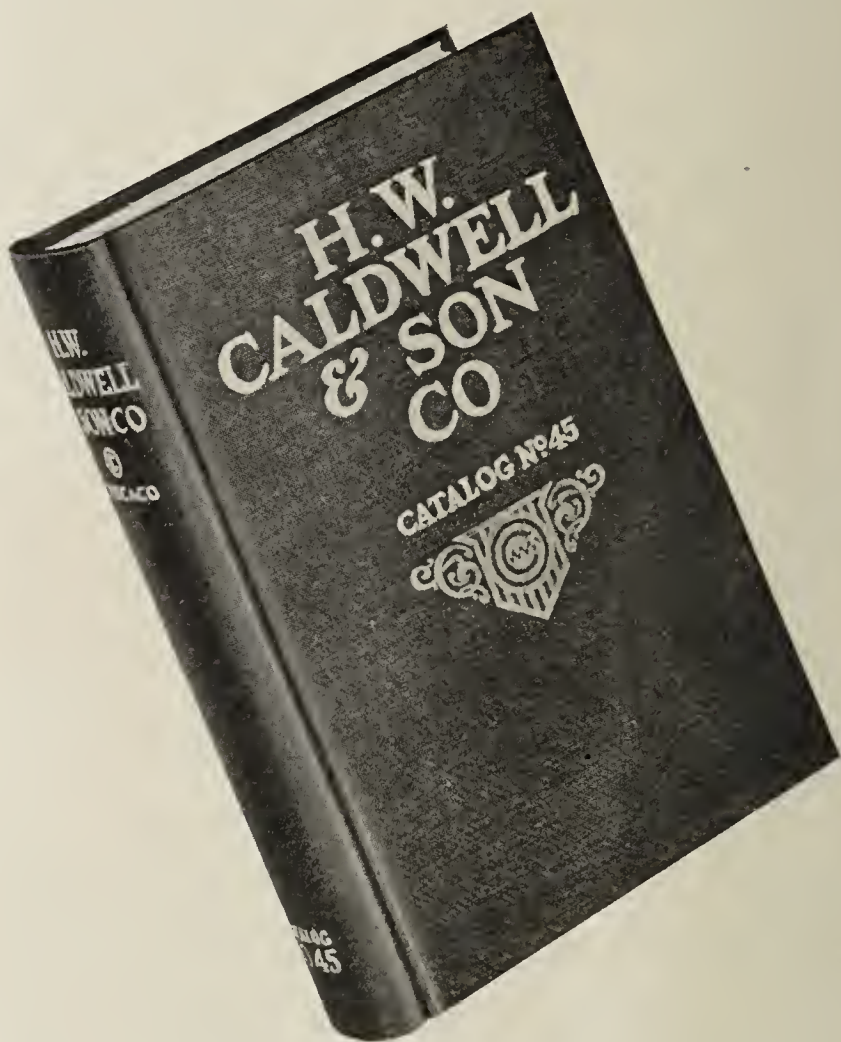
MACHINERY *and* EQUIPMENT

Descriptions of Machinery and Accessories and Detailed Announcements that Our Advertisers Believe Will Interest Our Readers

New Catalog Issued

New General Catalog No. 45, just issued by H. W. Caldwell & Son Co., contains over 800 pages of illustrations and descriptive matter, covering their complete line of elevating, conveying, power transmitting and general machinery.

To one not previously familiar with the extent of their line, the book is a revelation. For instance, in connection with conveyors, types are shown to fit almost every conceivable purpose—screw conveyors, bucket elevators, package elevators, belt conveyors, pan and platform conveyors, drag conveyors, together with all the parts and fixtures required.



This Will Give You a Good Idea of the Size of the Book

The same thoroughness is shown in handling the other pieces of equipment. Helpful tables are included, also price lists, altho the prices are subject to change without notice.

The book is a valuable one for clay-products manufacturers to have on file, and H. W. Caldwell & Son Co., Western Ave., Seventeenth to Eighteenth Sts., Chicago, will be glad to send a copy to readers of "Brick and Clay Record."



On June 1 the Easton Car & Construction Company removed their General Offices from 30 Church Street to larger quarters in 50 Church Street, New York City. Needless to say, the change will enable them to look after the interests of their customers to even better advantage in the future.



The Roessler & Hasslacher Chemical Company, announce the removal of their Chicago office from 111 W. Washington Street to 589 East Illinois Street. The telephone numbers are State 6657 and State 6658. Alfred C. Stepan is manager.

BRICK *and* CLAY RECORD

JUL 6 1920 WHAT A SCHAFER POIDOMETER IN YOUR PLANT WILL DO

THE rapid growth of the Schaffer Engineering achievements necessitated better manufacturing facilities in order to handle the enormous new business.

We have, therefore, combined with the Fawcus Machine Company, manufacturers of gears and special types of machinery, with large plants at Pittsburgh and Ford City.

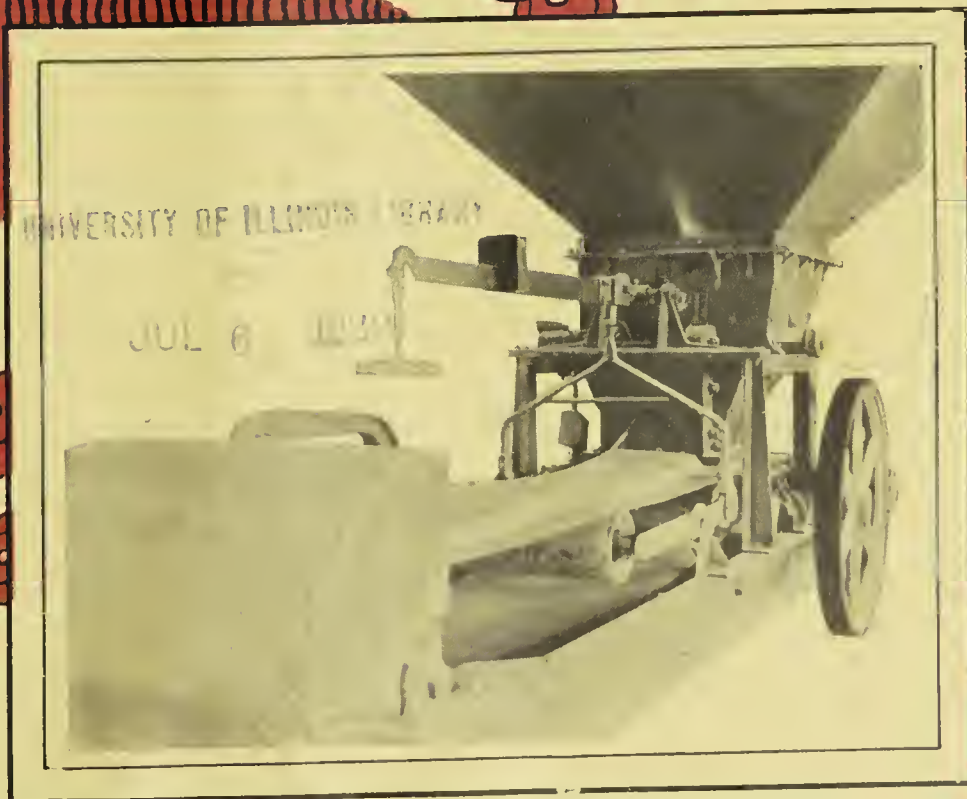
This consolidation places the Schaffer Engineering and Equipment Co. in position whereby we will have unlimited production facilities, enabling us to render prompt service and shipment to Clay Products Plants.

First—Weigh Cheaply, Automatically and Continuously at all times with an accuracy of 99.75% from 1½ to 21,000 lbs. a minute.

Second—Releases the unreliable pug mill man, and saves expensive labor.

Third—Requires no repairs. No attention.

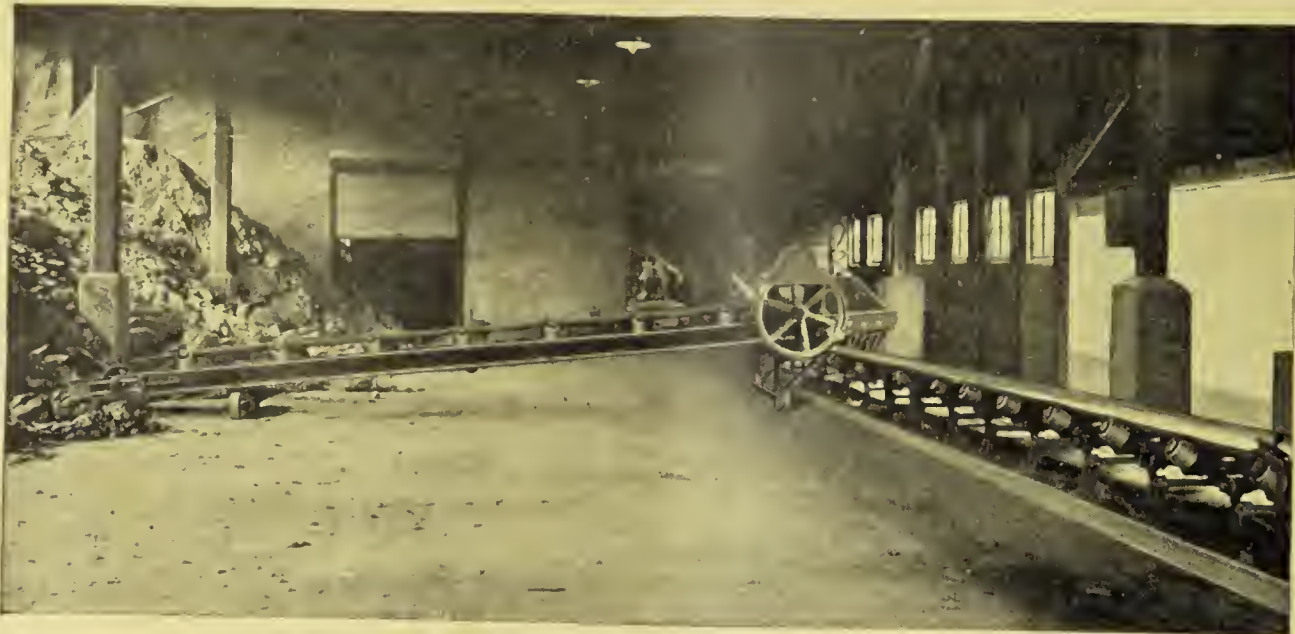
Fourth—Improves the mixture and temper of the clay, increasing the amount of perfect ware coming from the dryer. This fact alone makes it possible to pay for the installation in a reasonably short time.



Our Engineers will be pleased indeed to help you. Ask for our latest catalog.



THE SCHAFER ENGINEERING AND EQUIPMENT CO.
PEOPLES BANK BLDG., PITTSBURGH, PA.



EQUIPMENT
FOR SERVICE

PLANNING AHEAD

To Handle the Increased Demand for Clay Products.

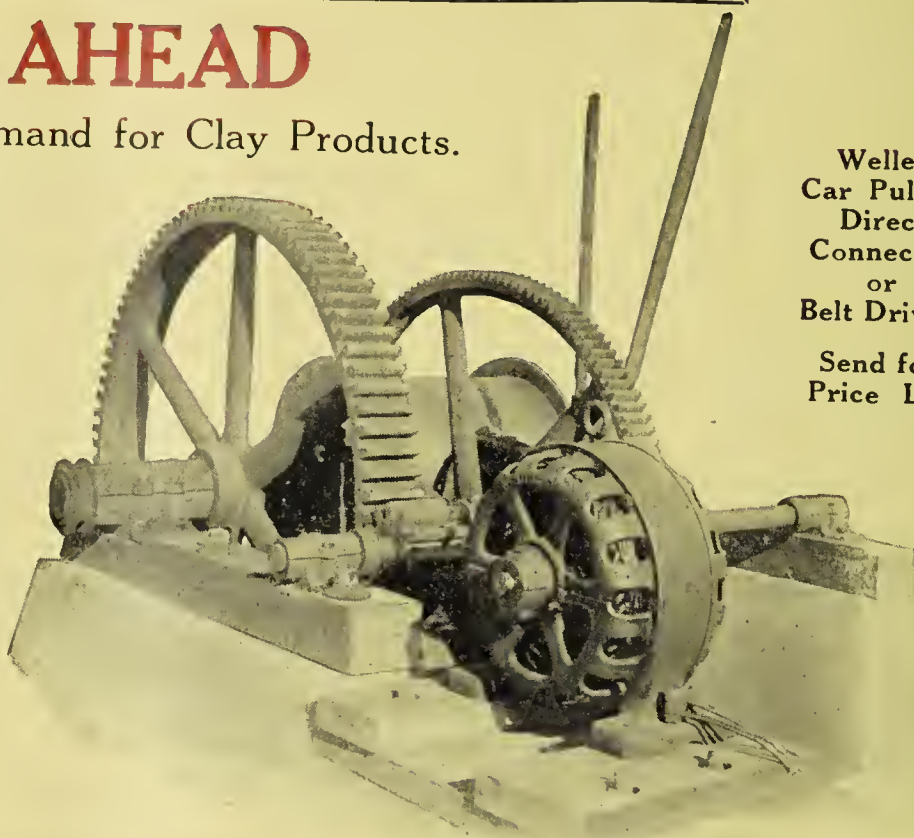
With the shortage of buildings throughout the country and the high prices of lumber and steel, the demand for brick and clay products will be far in excess of the production.

The shortage and high price of labor will curtail the output unless machinery to mechanically handle the raw material is installed.

When planning for increased facilities and greater production, don't forget that

WELLER MADE MACHINERY

will help to increase the output and reduce the overhead expenses.



Weller
Car Pullers
Direct
Connected
or
Belt Driven

Send for
Price List

Elevating, Conveying and Power Transmitting Machinery



This Stamp on Steel Chain
Insures Service

WELLER MADE STEEL BUSHED CONVEYOR CHAIN



with case hardened bushings and pins,
will wear as long and give as good service
as any chain made.

Prompt shipment.

Send for Chain Price List K.

Call on Us For

Apron Conveyors, Belt Conveyors, Drag Conveyors, Pan Conveyors, Spiral Conveyors, Bucket Elevators, Apron Feeders, Track Hoppers, Car Pullers, Car Loaders, Car Unloaders, Power Shovels, Bin and Outlet Gates, Storage Bins, Rotary Screens, Pulleys, Bearings, Hangers, Friction Clutches, Gears, Sprockets, etc.

Prices on application

WELLER MFG. CO. CHICAGO

New York
Boston

Baltimore
Cleveland

Pittsburgh
Salt Lake City

WATT

YOU DON'T NEED TO BE TOLD of the necessity of Dependable and Efficient Cars at your Plant, for Big Production.

You want cars that will stand the punishment and grief in hauling your clay, years at a stretch, without extensive repairs and without breakdowns. In other words, you want perfect performance—long wear—quick haulage.

WATT CARS measure up to these requirements because they are individually designed. Our engineers study your pit and then build a car to fit it. We have the skill, the best materials, the largest experience and the biggest car factory in the world. We know that cars must be **BUILT TO ORDER—BUILT TO FIT.**

Our Engineers are at your service at all times. Don't hesitate about writing for complete data. Write today.

THE WATT MINING CAR WHEEL CO.
BARNESVILLE, OHIO

Branch Offices:

Denver,
Lindrooth, Shubart & Co.
Boston Bldg.

San Francisco:
N. D. Phelps
Sheldon Bldg.

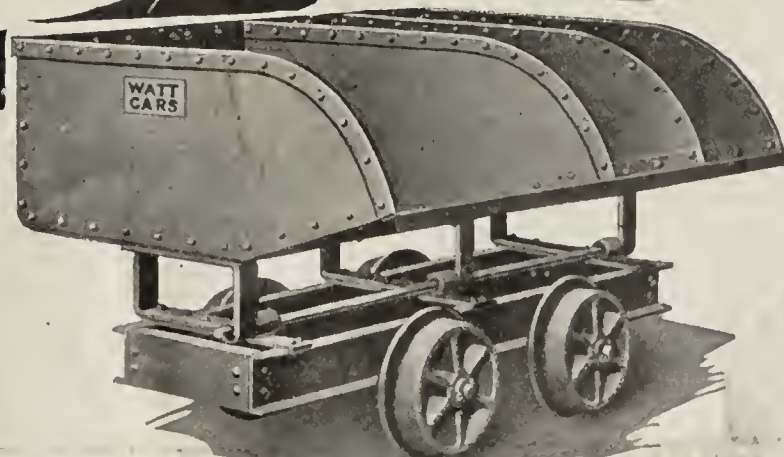
Philadelphia:
Edelen & Co.
235 Commercial Trust Bldg.

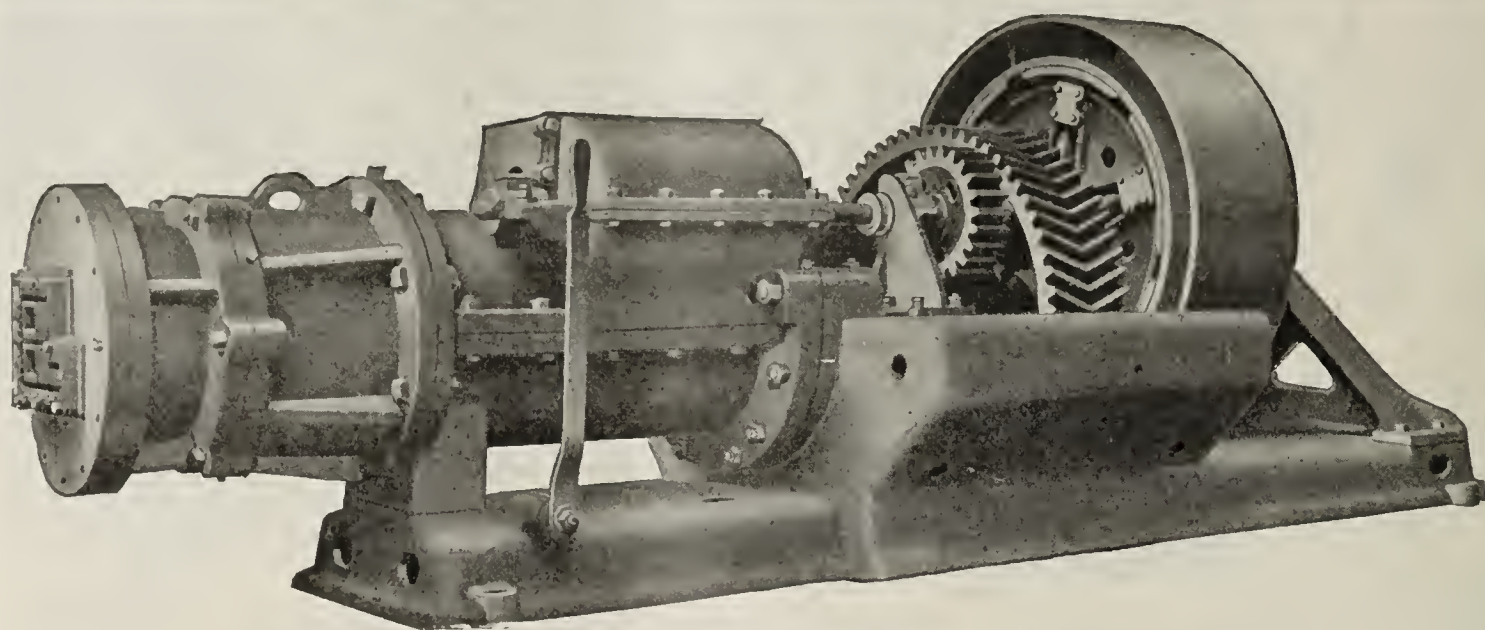
CARS

THAT'S ALL WE MAKE

Every Type and Style

Largest factory in the world devoted
exclusively to car building





No. 20 Hollowware or Brick Machine

Until You've Seen—

A well known clay worker came into our factory the other day as our erectors were putting the finishing touches to a No. 20 machine (for Fairchild Clay Products). "I had no idea that the No. 20 was such a massive, well built machine," was his comment.

Until you have seen Bonnot machinery you cannot appreciate the strength and sturdiness of its construction. It is only when you stand beside one—or better—operate one that you get a real understanding of them.

The No. 20, for example, weighs 21,000 lbs., has a 60" x 21½" pulley; steel gears, 12" face, 445 sq. in. thrust area; and will make 200 tons of ware per day.

There are other Bonnot machines with different capacity.

The Bonnot Company

CANTON, OHIO

"LET US STANDARDIZE YOUR PLANT"

We have a limited number of 1920 memorandum books on hand. Write for one if you can use it.

"HURRICANE" DRYERS

*Satisfaction is Written
Clear Across the Page*

Read Mr. Steele's Letter

This is but one of the many testimonials we receive from satisfied users of "HURRICANE" Automatic Stove Rooms.

If you are "interested in drying your ware by the latest improved methods," let our Engineers give you complete information on the "HURRICANE."

Write Today

The Philadelphia Drying Machinery Co.
Stokley Street above Westmoreland
Philadelphia, Pa.

BELL NORTH 6784

THE BRUNT TILE & PORCELAIN CO.
MANUFACTURERS OF
CERAMIC MOSAIC FLOOR TILE
AND
HIGHEST GRADE PORCELAIN
FOR WALL ELECTRICAL PURPOSES

Columbus, Ohio.

The Philadelphia Drying Machinery Co.
Philadelphia, Pa.

Gentlemen:-

In reference to the Automatic Drying Machine which you installed in our plant for drying porcelain insulators, we are pleased to advise that the machine is drying our ware in a most satisfactory manner. We obtain a thorough and uniform drying.

We could recommend this machine to anyone who is interested in drying their ware by the latest improved methods.

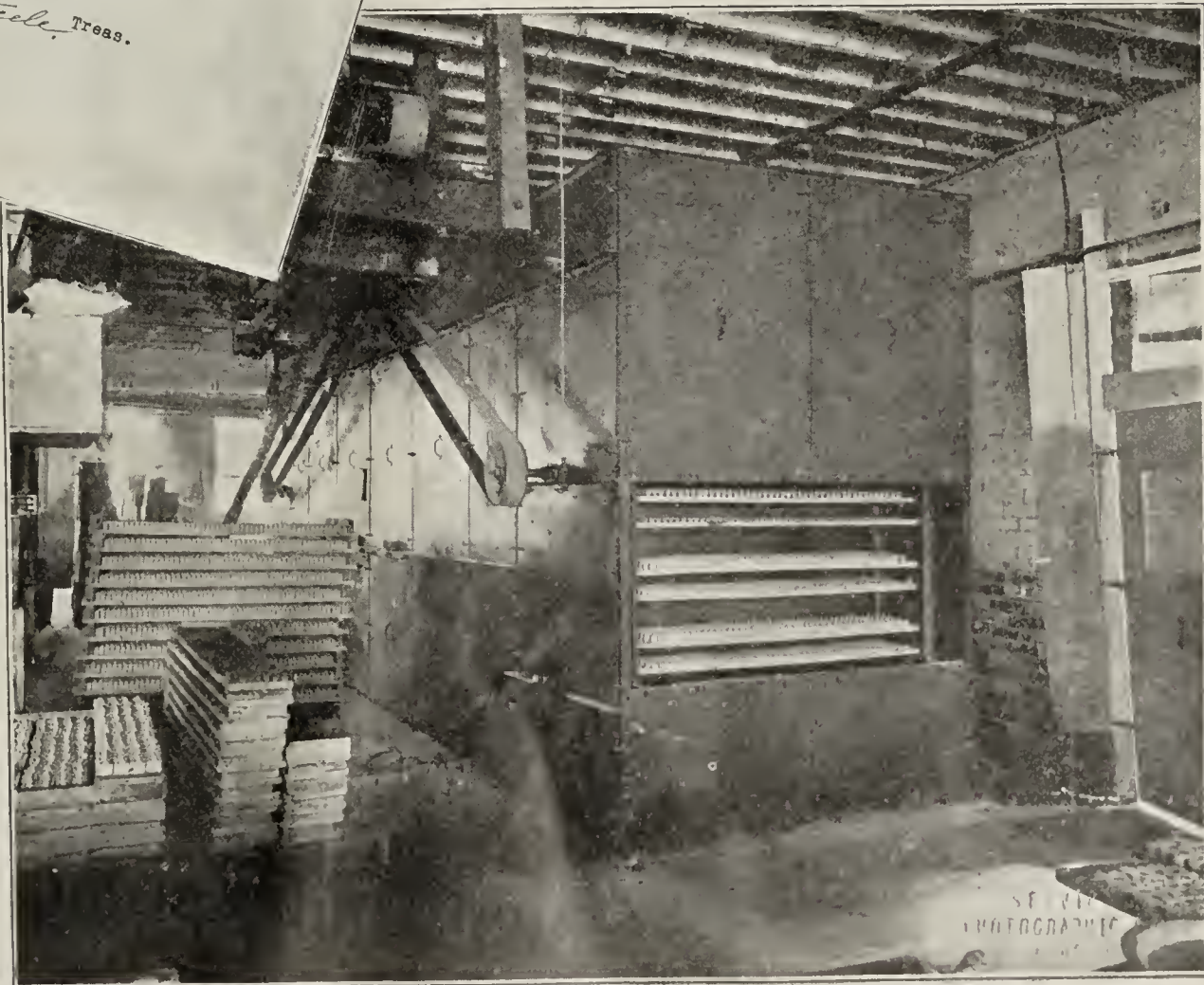
When we require additional drying, we shall certainly install more of your Hurricane Dryers.

Very respectfully yours,

THE BRUNT TILE & PORCELAIN CO.

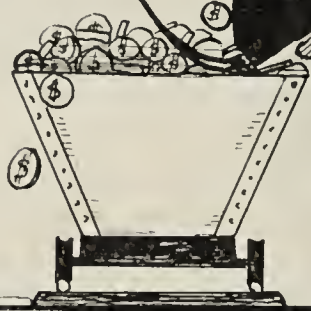
W. H. Steele, Treas.

Cut showing installation of "HURRICANE" Stove Room in The Brunt Tile and Porcelain Company Plant drying porcelain insulators. Note the simplicity of machine and the small amount of floor space covered.



Save the Costs

of time and labor in removing your overburden, by using the right kind of machinery.



The Schofield-Burkett Excavator

is the one method of stripping overburden which will solve your cost problems of time and labor as it has for other manufacturers throughout the country. Often, by the savings it has effected, it has paid for itself in one year.

At a large Eastern Plant, this excavator has lowered the stripping cost from 50c to 8c per cubic yard, saving \$40 to \$45 a day.

No matter how well equipped other departments of your Plant may be, if the removing of your overburden is expensive, using a large percentage of your help with a great loss in time—then the efficiency of your whole Plant is impaired.

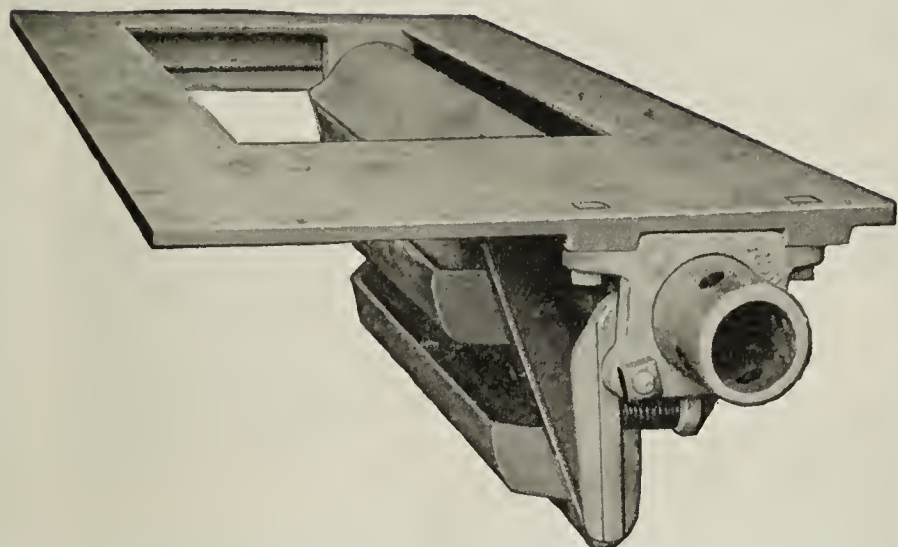
Whatever your conditions, if you have an excavating problem, write us. Our engineers will be pleased indeed to advise you without any obligation on your part. Ask for copy of Catalog No. 20.



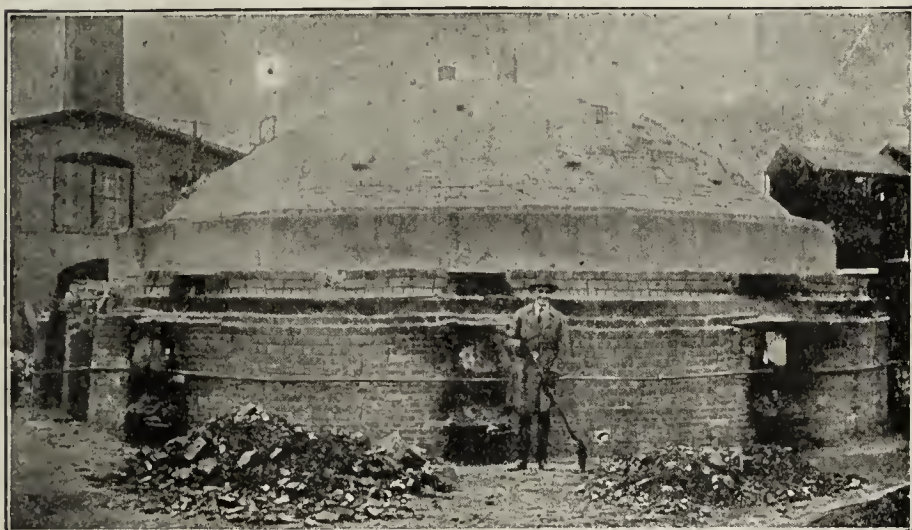
**Schofield-Burkett
Construction Co.**

Macon, Georgia

**25% to 40%
SAVING**



The Furnace Gas Producer With Trunnion Dumped



Burning Paving Block With Furnace Gas Producers

in
**Time-Fuel
Labor**

Using
Your Present Kilns
By Means of

The
FURNACE GAS PRODUCER

Try It on One Kiln

International Clay Machinery Co.
Dayton, Ohio

New York Office

:::

136 Liberty St.

THE ELECTRIC STORAGE BATTERY CO.



“Have Cut Our Labor Cost a Full 50%”

This is the kind of results that users of electric industrial trucks are reporting constantly—not only in the brick industry but in every field where handling charges vitally affect production costs. It is significant that these remarkable demonstrations of efficiency are invariably made with trucks whose battery equipment is the rugged, dependable

“Ironclad-Exide” Battery

The famous “Giant” jars in which this battery is assembled, and the equally famous “Ironclad-Exide” Positive plate, are features not to be found in any other battery in the world. They are the crystallized results of 32 years of battery building experience. Years of successful use, under the most trying conditions has led the manufacturer of every industrial truck in the market to recognize and endorse the “Ironclad-Exide” Battery.

Investigate the industrial truck and this most efficient battery; it will pay you. Send today for list of truck manufacturers and Bulletin 160.

THE ELECTRIC STORAGE BATTERY CO.

The largest manufacturer of Storage Batteries in the world
1888 PHILADELPHIA, PA. 1920

New York
Minneapolis

Boston
Cleveland

Chicago
Atlanta

Washington
Kansas City

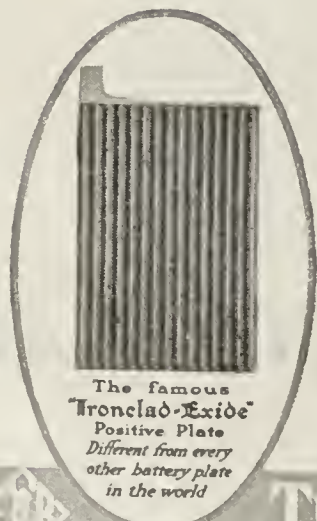
Denver
Pittsburgh

San Francisco
Detroit

St. Louis
Rochester

Special Canadian Representatives, Chas. E. Goad Engineering Co., Limited, Toronto and Montreal

Batteries are made by this Company for every storage battery purpose

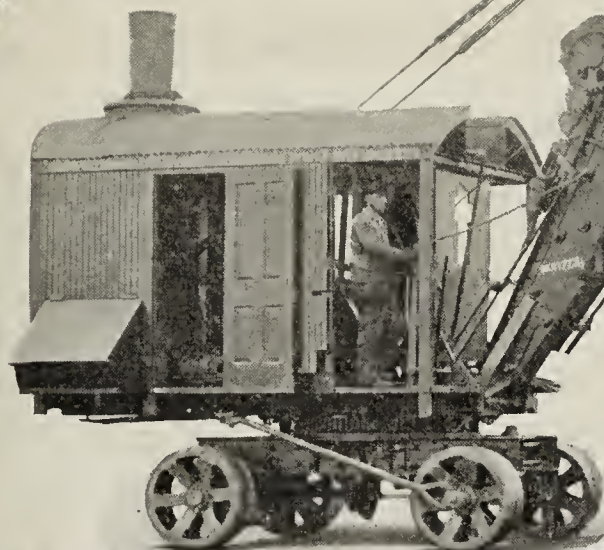


THE ELECTRIC STORAGE BATTERY CO.

The New Type O Thew and Its 16 Superior Features

Brick and clay operators are surprised when they see how production may be increased by the use of this powerful digger. They are really amazed at the economy—the saving in money and labor.

And the New Type O Thew is THE shovel. Look at the summary of its 16 superior features:



Thew manufactures a complete line of revolving power shovels and cranes—steam, gas and electric—for all classes of work. Dipper capacities $\frac{1}{2}$ to 2 cubic yards. Cranes 3 to $7\frac{1}{2}$ tons.

The Thew Automatic Shovel Co.
Lorain, Ohio

New York: 30 Church St. Chicago: Monadnock Block

1. Plate Girder Shipper Shaft Boom.
2. Heavy Cast Steel Boom Hinges.
3. Special Dipper Arm Guides.
4. Single Member Dipper Stick.
5. Added Thrusting Power.
6. Twin Gears on Shipper Shaft.
7. Cut Steel Gears.
8. The Thew Double Acting Steam Ram.
9. Engine Pinions Between Bearings.
10. The Thew Power Steer.
11. Reinforced Truck Frame.
12. The Thew Center Pin.
13. Swivel Axle Supports.
14. Round Edged Reinforced Truck Wheels.
15. Jaw Clutches on Axle.
16. Perfect Balance.

Let us tell you the story behind these features. Let us also tell you about the electric and gasoline Type O. Your particular work may not demand steam power.

THEW Power Shovels

ALMACOA

EXPORT DEPARTMENT
ALLIED MACHINERY COMPANY OF AMERICA
51 CHAMBERS ST. NEW YORK, U.S.A. CABLES: ALMACOA NEW YORK

ALMACOA



STRONG AS A STEEL CABLE

GANDY the original stitched COTTON DUCK BELT, has all the strength of a steel cable with the tenacity, flexibility and longevity of specially processed cotton duck.


GANDY is the Standard Belt of Industry!

Its enviable reputation is based on the performance of nearly 40 years in the transmission and conveyor field.

GANDY engineering service goes with every belt—power or conveyor—to insure the right belt—in ply and size—for each particular job.

Orders filled promptly from mill supply house or direct.

*Look for the Green Edge
and Gandy Trademark.*



GANDY BELT

Stitched
Cotton Duck

THE GANDY BELTING COMPANY

Main Office and Factory
732 West Pratt Street
Baltimore, Md.

BRANCHES:
36 Warren St., New York City
549 W. Washington St., Chicago, Ill.

“MARTIN” Pipe Rack Dryers **“MARTIN” Cable Conveyor Systems** **“MARTIN” Brick Machinery**

Our developments of the original “Martin” PIPE RACK DRYERS, CABLE CONVEYOR SYSTEMS and BRICK MACHINERY are the result of twenty years actual experience in the shop and in the field. Our organization includes men who have specialized for all of these years on this particular line of equipment.



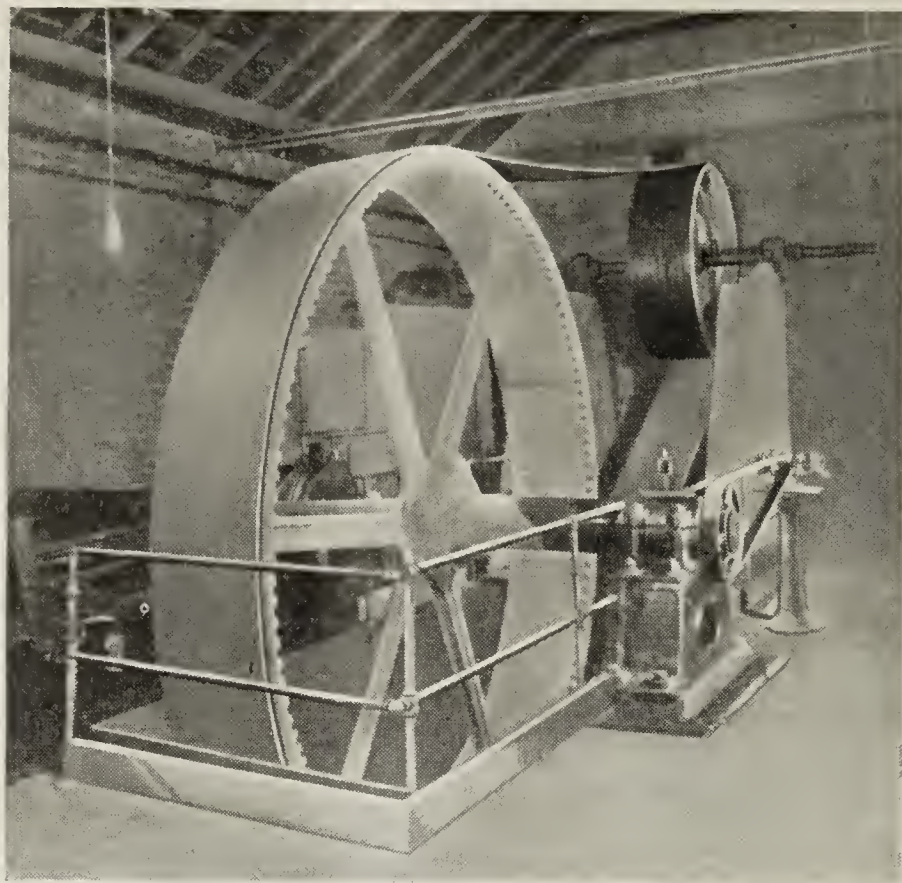
Note the clean cut details of both the PIPE RACK DRYER and CABLE CONVEYOR equipment as shown on these illustrations. Everything is simple, strong and of correct design. All iron and steel construction throughout. Practically no repairs. We have built five complete plants within the last six months, and every one of them in successful operation.

LANCASTER IRON WORKS, Inc. **LANCASTER, PENNSYLVANIA**

New York Office,
 501 Fifth Avenue.

Join The National Brick Mfrs. Assoc.

Jas. P. Martin, Manager,
 Clay Working Machinery Department.
Join The Common Brick Mfrs. Assoc.



Economy for Every Drive In the Brick and Clay Plant

NATURALLY, the man who tests out a new type belting in his plant, invariably selects a "jinx" drive as the test of the belt's capability.

Almost without exception, when called upon to operate such a drive, Gilmer has established a new record of economy and efficiency.

And, on the other drives, too—the ones that cause little trouble—Gilmer, almost without exception, establishes higher standards of service at minimized costs.

Dirt, grit, moisture, heat—these are the trouble makers for belting in the brick and clay field. Gilmer is built to resist just these destroyers.

Gilmer weaving and Gilmer "processing" has given a new meaning to solid woven belting. Ask our engineers about it. They will promptly tell you how much Gilmer can help you.

L. H. GILMER COMPANY

Main Office, Philadelphia, Pa.

FACTORIES
Tacony, Philadelphia, Pa.
North Wales, Pa.
Millen, Ga.

BRANCH OFFICES

Chicago
Detroit

Gilmer
SOLID WOVEN
BELTING



SEE the long, sweeping stroke of this big Railroad type "Marion"—its shallow "bite" through the various strata, thoroughly mixing the material and breaking it into small lumps.

"Marions'" enviable, honorable performance record in the clay industry dates 'way back to 1884 when the first "Marion" was built. We're proud to have "Marions" known among brick, tile and sewer pipe manufacturers as "The Clay Worker's Shovel."

Many operators keep their "Marions" busy the year 'round digging clay and shale, loading and rehandling various materials and doing odd jobs. Every "Marion" is an active, dividend-paying investment.

Our new production policy — fewer models and more of these—means earlier deliveries for you. Tell us all about your problem and you'll receive our estimates promptly.

THE **Marion**
STEAM SHOVEL CO.

Established 1884

Marion, Ohio

New York Chicago Atlanta San Francisco

Billings, Mont., F. B. Connelly Co.
Dallas, F. B. Wright, Bush Bldg.
Denver, - H. W. Moore & Co.
Detroit, - W. H. Anderson
Tool & Sup. Co.

Philadelphia, H. L. Cox,
13th & Cherry Sts.
Pittsburgh, - J. W. Patterson
Portland, Clyde Equipment Co.
Salt Lake City, H. W. Moore & Co.

Seattle, Clyde Equipment Co. Vancouver, Vancouver Mach. Depot, Ltd.
Montreal, Toronto, - F. H. Hopkins & Co., Ltd.



You Can Increase Production By Reducing Costs—This Way

Here's Proof!

Carries 2500 pounds and tows ten tons on trailers—operated by one man at any speed from $\frac{1}{4}$ to 12 miles per hour.

Goes through aisles and doorways (it is only 46 inches wide), delivers load exactly where wanted—saves handling and breakage. Works in the plant and in the yard.

Gasoline driven—ready to go at any time of day or night—inexpensive to maintain and run. Anyone familiar with a gas car can operate the Trutractor.

There is a special body design for your particular need—seven in all.



This is a model M Trutractor, with hand-hoist end-dump body, used for miscellaneous interior and yard hauling in a Clay Products plant.

The Trutractor

Cuts Time Losses

Plant transportation affects plant production. Inadequate haulage methods—hand trucks, wheelbarrows, carts—are unduly costly. Slow delivery means idle machine hours, crowded aisles, lost time, high costs.

The Clark Trutractor corrects this condition. It reduces idle machine hours, helps maintain schedules, speeds production in every department, and cuts costs. It does the work of a number of hand truckers and wheelbarrow men—better, quicker, cheaper.

The Clark Trutractor does not require tracks or expensive installations—each unit is complete and independent. It is only 46 inches wide, turns in small space and runs as slowly as $\frac{1}{4}$ mile per hour or as fast as 12.

*A review of YOUR plant haulage may result in some vital discoveries.
Write for Clark Trutractor Bulletin for Clay Products Plants.*

CLARK TRUCTRACTOR COMPANY, 1124 Day Street, Buchanan, Mich.



CLARK
The Gasoline
Industrial Truck
TRUCTRACTOR

The saving of Fuel Time and Labor, through the use of the Continuous Railroad Tunnel Kiln is an important factor in the resumption of construction and building—

Announcement

We beg to announce that George A. Balz, formerly General Manager of Didier-March Co., of Perth Amboy, N. J., pioneer Tunnel Kiln builders in this country and in Europe, is now associated with this company as General Manager of its Tunnel Kiln Department. With Mr. Balz will be associated the former engineering organization of Didier-March Co., with its accumulated experience of ten years in designing, constructing and operating of CONTINUOUS CAR TUNNEL KILNS and other types of Industrial Furnaces.

We respectfully invite your inquiries concerning the MODERN METHOD of burning your ware at minimum cost and in the minimum of time, with maximum production.

We are prepared to finance Tunnel Kiln installations for responsible parties upon attractive terms and will be pleased to give further particulars upon application.

GEORGE H. HOLT & CO.

CHICAGO, ILLINOIS

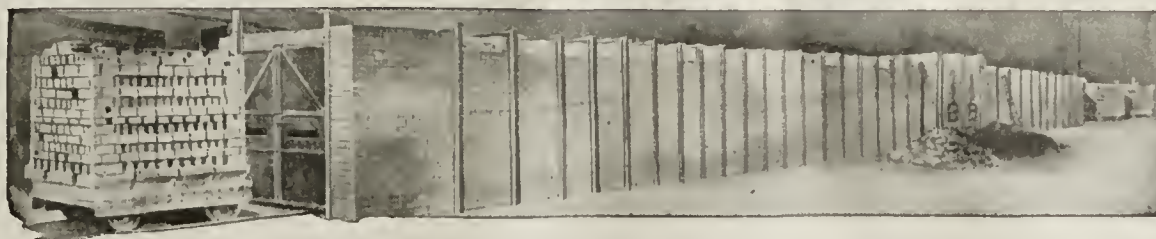
Address all correspondence relating to TUNNEL KILNS to

GEORGE A. BALZ

General Manager Tunnel Kiln Dept
RAHWAY, N. J.



DIDIER-MARCH
CONTINUOUS RAILROAD TUNNEL KILN



KISSEL

Your Hauling Problems Can Be Solved

THERE may be peculiar conditions—unusual obstacles—new problems—but they can be met—overcome—solved—by Kissel Trucks.

For Kissel Trucks represent a development in motor transportation far in advance of the problems they are called upon to solve.

The motor—sturdy, powerful—is designed and built by Kissel solely for truck requirements—and all moving units, together with the frame, springs and axles, are built to the Kissel standard. Five different sized models—a size for every business.

So again, your haulage problems can be solved by seeing your nearest Kissel dealer, or writing our Transportation Engineering Division.

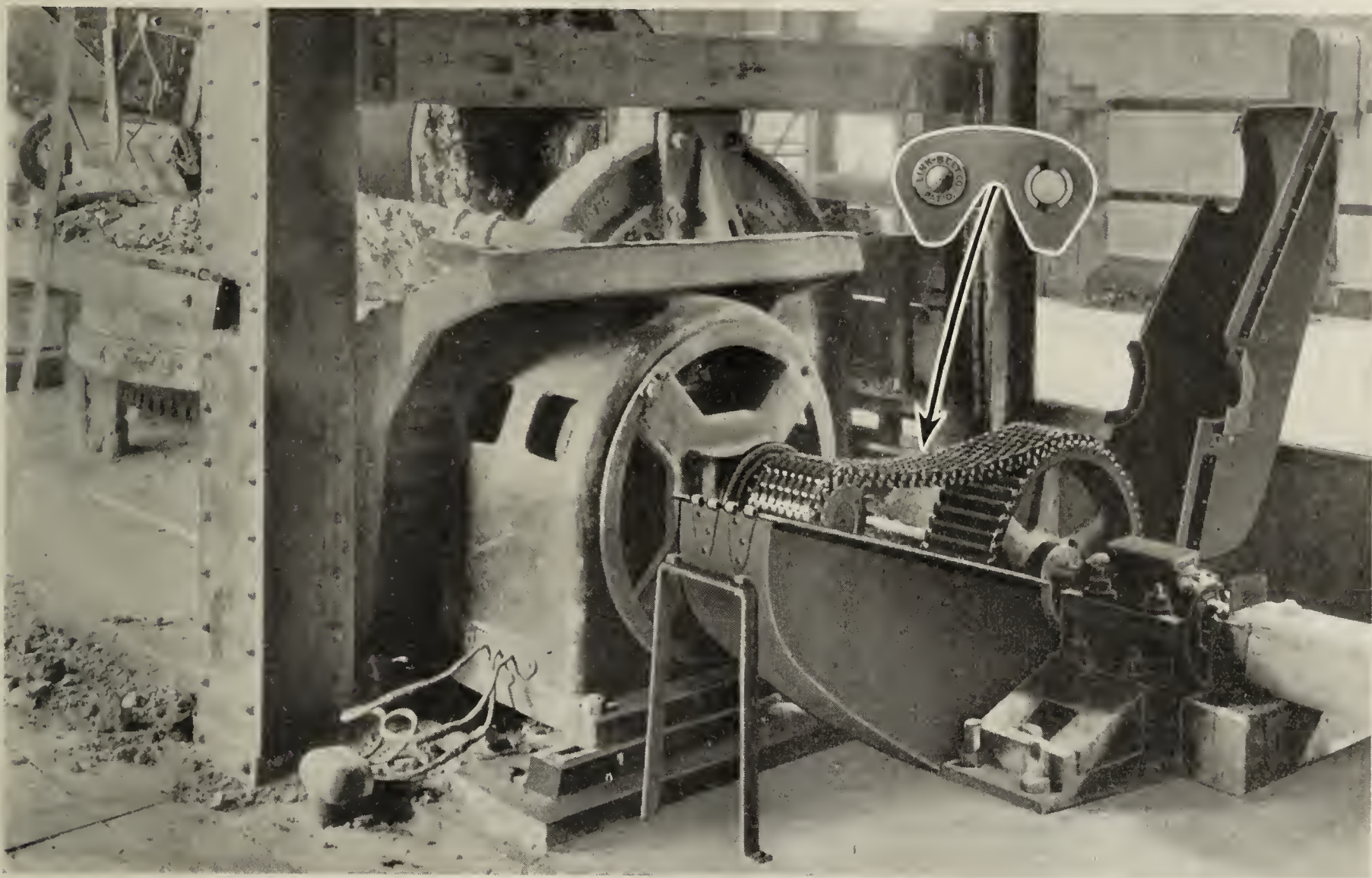
**KISSEL MOTOR CAR CO.
HARTFORD, WISCONSIN**

Originators of ALL-YEAR Cab for Trucks



Drive It With Silent Chain

Eliminate Long Centers on Motor Drives



A flat belt drive to be successful requires long centers. This often means that the drive occupies space which could be used to better advantage. Flat belts stretch and slip, and require frequent adjustment to meet atmospheric changes. They also deteriorate rapidly in gritty surroundings. Even when operating under ideal conditions a flat belt is usually under 90% efficient. In these days of high cost of power and fuel this amounts to a considerable item.

Link-Belt Silent Chain is flexible as belt, breaks up vibration and is easier on the motor than any other type of drive. It is positive as gear, transmitting all the power of the motor to the lineshaft or machine without slip or loss, and with a sustained efficiency of 98.2%.

Weather conditions do not affect it. When enclosed in our oil-tight dust-proof casing (running in oil), it is protected from dust, insures safety to workers, and requires little attention.

Some 50 clay plants have adopted Link-Belt Silent Chain to operate lineshafts, pans, pug mills, fans, presses, jiggers, pumps, washers, agitators, glaze mills, etc. They find it "The Ideal Drive."

Let one of our experienced engineers who is thoroughly conversant with power transmission problems in Brick and Clay Plants, give you the benefit of his experience. Catalog No. 310 sent on request.

PHILADELPHIA

New York 299 Broadway.
Boston 9 49 Federal St.
Pittsburgh 1501 Park Bldg.
St. Louis Central Nat'l Bank Bldg.
Buffalo 547 Ellcott Square
Wilkes-Barre 2d Nat'l Bank Bldg.
Huntington, W. Va. Robson-Prichard Bldg.

CHICAGO

LINK-BELT COMPANY

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Detroit 790 Woodward Ave.
Minneapolis 418 S. Third St.
Kansas City, Mo. 306 Elmhurst Bldg.
Seattle 576 First Ave. S.
Portland, Ore. First and Stark Sts.
San Francisco 582 Market St.

INDIANAPOLIS

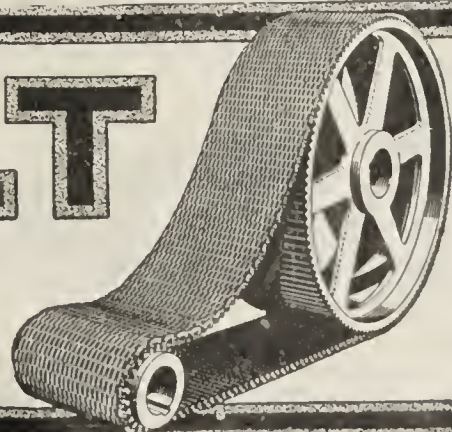
Los Angeles 163 N. Los Angeles St.
Toronto, Can. Canadian Link-Belt Co., Ltd.
Denver Lindrooth, Shubart & Co., Boston Bldg.
Louisville, Ky. Frederick Wehl, Starks Bldg.
New Orleans C. O. Hinz, Hibernia Bank Bldg.
Birmingham, Ala. S. L. Morrow, 729 Brown-Marx Bldg.
Charlotte, N. C. J. S. Cothran, Com'l Bank Bldg.

TORONTO

LINK-BELT

SILENT CHAIN

FOR POWER TRANSMISSION





The Question of Correct Kiln Heats — A Sure Saving if Properly Solved

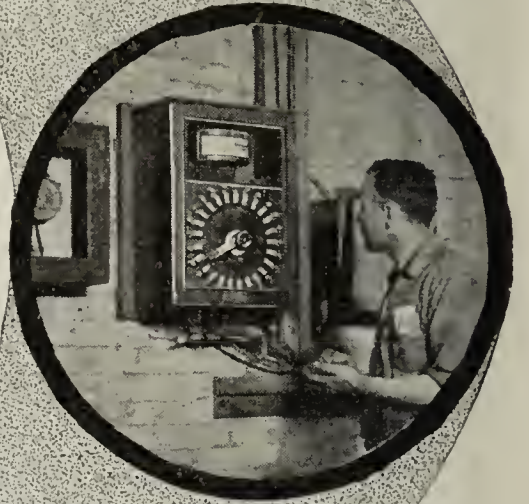
EVER since the Egyptians along the Nile baked good brick centuries ago, men have always guessed kiln temperatures. Why? Because temperatures are the gauge of a successful kiln burn.

Brick burning then was not on a competitive basis, however, and if they got 25 or 50% satisfactory results, those fellows were likely satisfied.

Not so today, however. It's a nip and tuck competition for business and the survival of the fittest. The man who absolutely knows temperatures is the one who wins out.

Here's where we have it on the ancients. You can today use a Brown Pyrometer that will infallibly tell you true kiln heats. That's half the battle won—it's "profit" insurance to *your* brick business if you will only apply it.

Not only has it resolved itself on Brown Pyrometers to solve the brick man's problem, but unboastingly, they



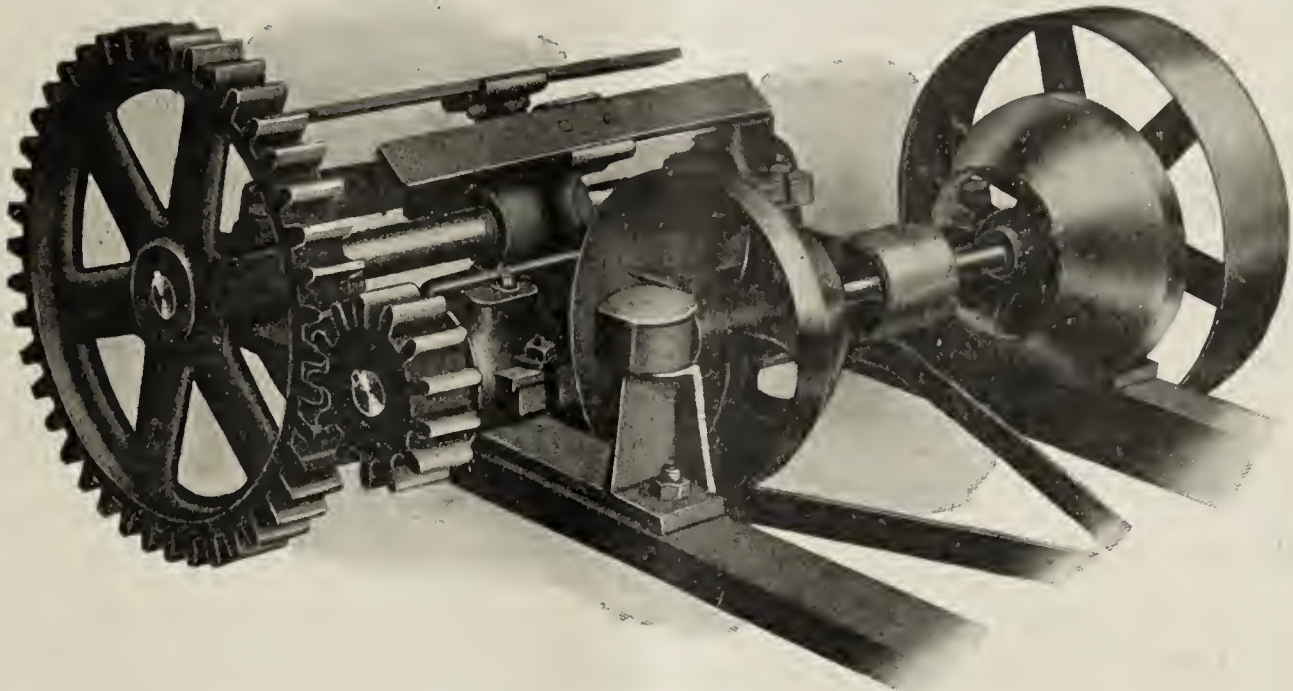
are the most used temperature measuring instrument in the world today. A line to us will give you a quotation that will without doubt put your brick burning on a profit-paying basis. Simply answer this ad for the information you should have. Write for complete details to the Brown Instrument Co., Philadelphia, or one of their district offices in New York, Pittsburgh, Detroit, Chicago, St. Louis, Denver, San Francisco, Los Angeles or Montreal.

Brown Pyrometers

The World's Standard Heat Meters

American Style "A" Conveyor

This Conveyor is built to perform satisfactorily for a long time. A glance at the head pulley, here shown, will give an idea of the detailed excellence which



American Style "A" Conveyor

makes up the big quality of this conveyor. There isn't a feature which would add to its life or usefulness which has been overlooked and it is beyond question, the best conveyor on the market and will prove the very best conveyor investment you could make. We have a bulletin on this conveyor. Send for it. We build every machine and appliance needed in any branch of the clay trade.

American Winding Drum

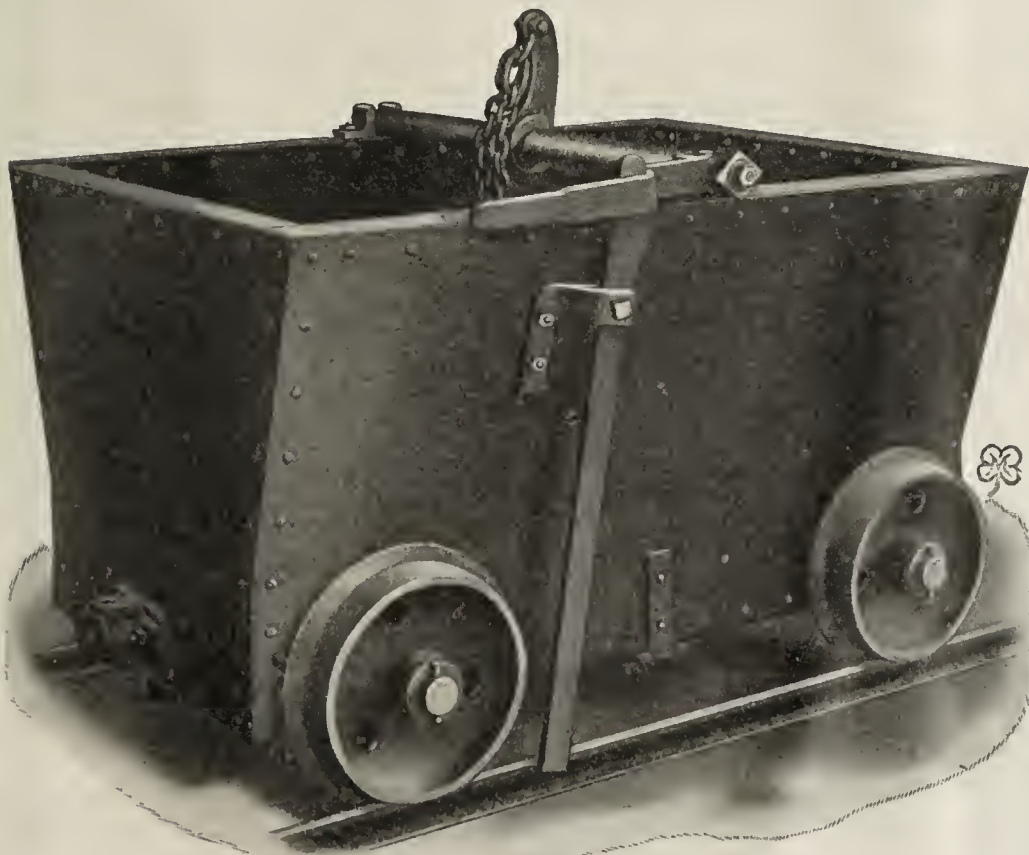
This is only a small cut of a very large quality Winding Drum. The American No. 242 drum is worthy of your investigation. Send for bulletin.



No. 242 Drum

American No. 71 Dump Car

The American No. 71 Dump Car is a high quality car. It is easy running, clean dumping, economical, simple and substantial. Made in any gauge desired. We make a big line of side and bottom dump clay cars. Send for bulletin.



American No. 71 Dump Car

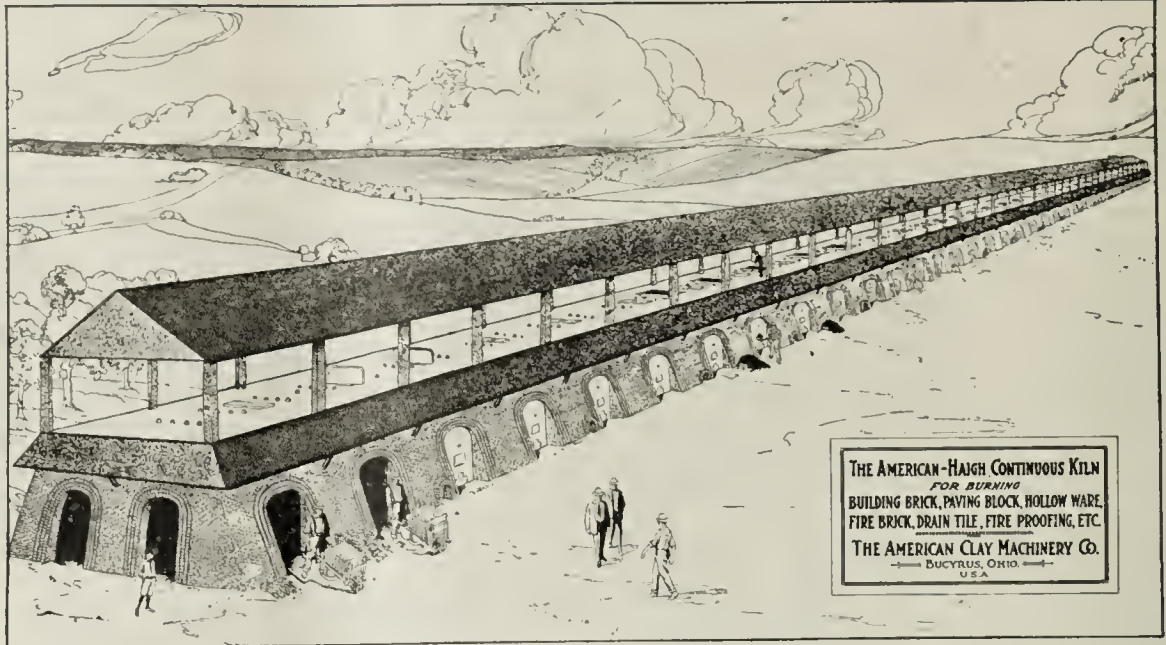
The American Clay Machinery Co.
Bucyrus, Ohio, U. S. A.



Cost Cut

These are the days when a cut in cost appeals to the people.

At the same time a cut in the cost of production would save the manufacturer money and increase his profits.



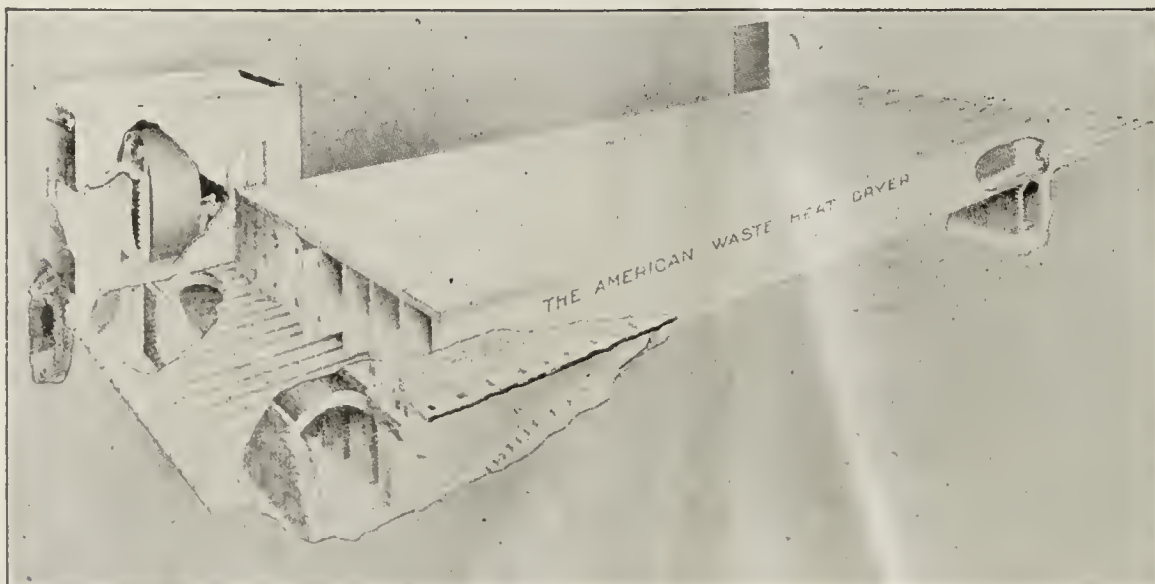
Haigh Continuous Kiln

The coal saving effected by burning your product in a Haigh Continuous Kiln amounts to fifty per cent. or more over the older type of kilns. Then there is a labor saving cost of an equal per cent. and you improve your product. Just now, when the whole nation can be benefitted by any saving, you would be doing a big thing for the country—not overlooking yourself, by adopting the Haigh method of burning. It pays for itself in a season or two with the saving effected. It's worth looking into. Let us show you a Haigh Kiln in operation. They are "successful everywhere." Printed matter for the asking.

Waste Heat Dryer

American Type

Connected up with the Haigh Kiln, or any other type of kiln, there is no cheaper method of drying than the American Waste Heat Dryer. It saves practically all the cost of heat in drying your material. It takes the waste heat and gases from the cooling kiln and uses it to dry the product ready for burning. It is not only a saving but a big convenience. We will be pleased to send you our Dryer Booklet.



American Waste Heat Dryer

The American
Clay
Machinery Co.
Bucyrus, Ohio
U. S. A.



Trade Names Now in Use

on Face Brick and Other Clay Products

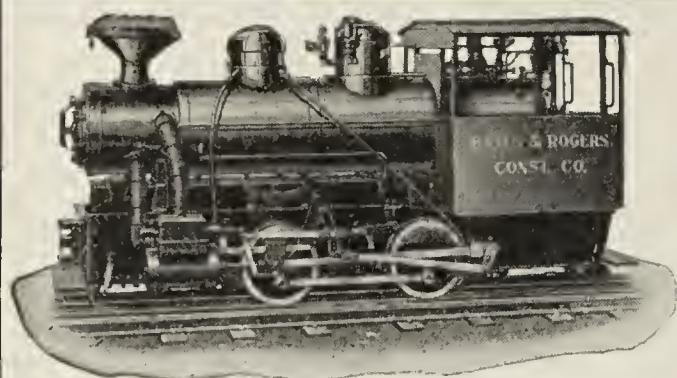
The purpose of this directory is two-fold: it serves to prevent a manufacturer from adopting a trade-name that is already in use—and it also helps manufacturers who use it to establish priority of claim to a name.

- ALLIANCE RUFFS—Alliance (O.) Brick Co.
 ARKATEX—Southern Building Products Co., Little Rock, Ark.
 ARMOR—Greenpoint Fire Brick Co., Brooklyn, N. Y.
 ARTISTICO—Capital Clay Co., Des Moines, Ia.
 ARTBRIQUE—Yingling-Martin Brick Co., Johnsonburg, Pa.
 ATHENA—Hocking Valley Fire Clay Co., Nelsonville, Ohio.
 BABYLONIAN—The Standard Brick Company, Crawfordsville, Ind.
 BEAVERCLAY—Beaver Clay Mfg. Co., New Galilee, Pa.
 BRADFORD REDS—Bradford Pressed Brick Co., Bradford, Pa.
 BRADFORD RUFFS—Bradford Pressed Brick Co., Bradford, Pa.
 BURLAP—Key-James Brick Co., P. O. Alton Park, Tenn.
 BURMAH—Walkers Mills Stone and Brick Co., Pittsburgh, Pa.
 CALEDONIAN—Fiske & Co., Inc., Boston and New York.
 CITADEL—Citadel Brick & Paving Block Co., Ltd., Quebec.
 CLAYTEX—Walton N. Cable, New York City.
 CLAYTON MISSIONS—Washington Brick, Lime & Sewer Pipe Co., Spokane, Wash.
 CLAYTON VELVETS—Washington Brick, Lime & Sewer Pipe Co., Spokane, Wash.
 CLOISTER—Western Brick Co., Danville, Ill.
 COLONIAL—Capital Clay Co., Des Moines, Ia.
 CONCO CLAY PRODUCTS—H. D. Conkey & Co., Mendota, Ill.
 CORALSTONE—Harris Brick Co., Zanesville, O.
 CORALROSE—Harris Brick Co., Zanesville, O.
 COLUMCLAY—Columbia Clay Co., Columbia, S. C.
 CORDOVA (Roofing Tile)—Gladding, McBean & Co., San Francisco and Lincoln, Cal.
 CORSWEVE—Thomas Moulding Brick Co., Chicago, Ill.
 CROWN—Green Fire Brick Co., A. P., Mexico, Mo.
 DENISON—Mason City (Ia.) Brick & Tile Co.
 DE LUXE—The Standard Brick Company, Crawfordsville, Ind.
 DIAMOND—Missouri Fire Brick Co., St. Louis, Mo.
 DORIC—Western Brick Co., Danville, Ill.
 DUNBAR—United Refractories Co., Uniontown, Pa.
 EGYPTIAN PAVING BLOCK—Murphysboro (Ill.) Paving Brick Co.
 ELKCO—Elk Fire Brick Co., St. Marys, Pa.
 ELKCO SPECIAL—Elk Fire Brick Co., St. Marys, Pa.
 ELK LADLE—Elk Fire Brick Co., St. Marys, Pa.
 ELK STEEL—Elk Fire Brick Co., St. Marys, Pa.
 EMBOSTEX—Streator (Ill.) Brick Co.
 EMPIRE—Green Fire Brick Co., A. P., Mexico, Mo.
 EMPIRE—Western Brick Co., Danville, Ill.
 EVERHARD ANTIQUE—Everhard Co., Massillon, O.
 EVERHARD DOUBLE-TEXTURE—Everhard Co., Massillon, O.
 EVERHARD FERN-LEAF—Everhard Co., Massillon, Ohio.
 EVERLASTING—Mason City (Ia.) Brick & Tile Co.
 FALLSTON IRON SPOTS—Fallston Fire Clay Co., Pittsburgh, Pa.
 FALLTEX—Fallston Fire Clay Co., Pittsburgh, Pa.
 FISKLOCK—Fiske & Co., Inc., Boston and New York.
 FRASERCLAY—Fraser Brick Co., Dallas, Texas.
 FULTONE—Fultonham-Texture Brick Co., East Fultonham, Ohio.
 FULTONHAM-TEXTURE—Fultonham-Texture Brick Co., East Fultonham, Ohio.
 GOTHIC—Western Brick Co., Danville, Ill.
 GREENDALES—Hocking Valley Pro. Co., Columbus, O.
 GREENDALE RED RUGS—Hocking Valley Pro. Co., Columbus, O.
 GREENDALE RUGS—Hocking Valley Pro. Co., Columbus, O.
 GRID—Fiske & Co., Inc., Boston and New York.
 HAWK-I-TEX—Capital Clay Co., Des Moines, Ia.
 HI-GRADE—Southwest Building Supply Co., Springfield, Mo.
 HOCKING BLOCK—Hocking Valley Brick Co., Columbus, O.
 HOLLAND SPLIT—Thomas Moulding Brick Co., Chicago, Ill.
 HOMESPUN—Thomas Moulding Brick Co., Chicago, Ill.
 HY-TEX—Hydraulic-Press Brick Co., St. Louis, Mo.
 INTERLOCKING TILE—Fraser Brick Co., Dallas, Texas.
 IRONCLAY—Iron Clay Brick Co., Columbus, O.
 KEYSTONE—Elk Fire Brick Co., St. Marys, Pa.
 LAKE SHORE MINGLED SHADES—The Burton-Townsend Co., Zanesville, Ohio.
 LAKE SHORE BLOCK—The Burton-Townsend Co., Zanesville, Ohio.
 LO-TEX BRICK—The Longmont (Colo.) Brick & Tile Co.
 LO-TEX TILE—The Longmont (Colo.) Brick & Tile Co.
 LOXALL—Exner, J. E., Coffeyville, Kan.
 M. D. ELK—Elk Fire Brick Co., St. Marys, Pa.
 MEDAL BLOCK—Medal Paving Brick Co., Cleveland, Ohio.
 MEXICO, MO.—Green Fire Brick Co., A. P., Mexico, Mo.
 MITCHELL EXTRA—Mitchell Clay Mfg. Co., St. Louis, Mo.
 MITCHELL SUPERIOR—Mitchell Clay Mfg. Co., St. Louis, Mo.
 MITCHELL NO. 1—Mitchell Clay Mfg. Co., St. Louis, Mo.
 MOBRIQUE—Harris Brick Co., Zanesville, O.
 MONTEZUMA RED FACE—Montezuma (Ind.) Brick Works.
 MOSAIC—Western Brick Co., Danville, Ill.
 MUSKOGEE RUG—Muskogee (Okla.) Vitri-fied Brick Co.
 NAVAJO—Kansas Buff Brick & Mfg. Co., Buffville, Kan.
 NUVOGUE—Boone (Ia.) Brick, Tile & Pav. Co.
 OLD ROSE COLONIAL—Montezuma (Ind.) Brick Works.
 OLEAN BLOCK—Sterling Brick Co., Olean, N. Y.
 PERSIAN SPLIT—Thomas Moulding Brick Co., Chicago, Ill.
 "POTTRY"—B. Mifflin Hood Brick Co., Atlanta, Ga.
 PROMENADE—Yingling-Martin Brick Co., Johnsonburg, Pa.
 RAINBOW—Burton Townsend Co., The, Zanesville, Ohio.
 RED ROCK RUFFS—Auburn Shale Brick Co., Gettysburg, Pa.
 REYNOLDSVILLE—The Reynoldsville (Pa.) Brick & Tile Co.
 ROTEX—Elk Fire Brick Co., St. Marys, Pa.
 RUFTEX—Thomas Moulding Brick Co., Chicago.
 RUG—Hocking Valley Pro. Co., Columbus, O.
 RUSTIQUE ORIENTAL—Martinsville (Ind.) Bk. Co.
 ST. MARYS—Elk Fire Brick Co., St. Marys, Pa.
 SHALE-TEX—Streator (Ill.) Brick Co.
 SIL-O-CEL—Celite Products Co., New York City.
 SPECIAL—Green Fire Brick Co., A. P., Mexico, Mo.
 SPEEDWAY BLOCK—Alliance (O.) Clay Prod. Co.
 STANBRIK—Edward Stanton, Cleveland, Ohio.
 STANDARD—Green Fire Brick Co., A. P., Mexico, Mo.
 STRANGER REDS—The Reynoldsville (Pa.) Brick & Tile Co.
 STAR FIRE BRICK—Star Clay Products Co., San Antonio, Tex.
 STAR FIRE PROOF HOLLOW BUILDING TILE—Star Clay Products Co., San Antonio, Tex.
 SYKESVILLE—The Reynoldsville (Pa.) Brick & Tile Co.
 TAPESTRY—Fiske & Co., Inc., Boston and New York.
 TAVERN BRICK—Metropolitan Pav. Brick Co., Canton, O.
 TELCO—Terra Cotta Products Co., Inc., Rio Vista, Calif.
 TEXTUR—Thomas Moulding Brick Co., Chicago, Ill.
 TIFFANY—Thomas Moulding Brick Co., Chicago, Ill.
 TORONTO—Toronto Fire Clay Co., Toronto, O.
 TOWNSEND BLOCK—The Burton-Townsend Co., Zanesville, Ohio.
 TURKESTAN—Beaver Clay Mfg. Co., New Galilee, Pa.
 TURKO—Rochester (Pa.) Clay Products Co.
 UNITED—United Refractories Co., Uniontown, Pa.
 U. R. CO.—United Refractories Co., Uniontown, Pa.
 U-TEX—Fultonham-Texture Brick Co., East Fultonham, Ohio.
 VERTEX—Beaver Clay Mfg. Co., New Galilee, Pa.
 VITRI-CRAFT—Schuylkill Valley Vitri-fied Products Co., Oaks, Montgomery Co., Pa.
 VOLCANIC—Beaver Clay Mfg. Co., New Galilee, Pa.
 WIRE-CUT-LUG BRICK—Dunn Wire-Cut Lug Brick Co., Conneaut, Ohio.

Brick and Clay Record Buyers' Directory of Manufacturers of Machinery, Equipment and Supplies

See Table of Contents Page for Advertisers Directory

Aerial Tramways. Leschen & Sons Rope Co., A.	Bearings. Caldwell & Son Co., H. W. Dodge Sales & Eng. Co. Hill Clutch Co., The	Blasting Powder. Atlas Powder Co.	Cable Conveyors. Arnold-Creager Co. Caldwell & Son Co., H. W. Leschen & Sons Rope Co., A.	Cements (Insulating). Celite Products Co.	Condensers. Westinghouse Electric & Mfg. Co.
Anti-Friction Metals. Hertz Metal Co., Theo. Toronto Fdry. & Mach. Co.	Belting. Gandy Belting Co. Gilmer Co., L. H. Goodyear Tire & Rubber Co. Main Belting Co. Scandinavia Belting Co. Stanley Belting Co. U. S. Rubber Co. Weller Manufacturing Co.	Boilers. (See Engines and Boilers)	Carbonate of Barytes. Roessler Hasselacher Chem. Co. Rollin Chemical Co.	Chain. Caldwell & Son Co., H. W. Link-Belt Company. Weller Manufacturing Co.	Conveying Machinery. (Also see Elevators and Conveyors) Godfrey Conveyor Co. Weller Manufacturing Co.
Ash Handling Equipment. Godfrey Conveyor Co.	Belting, Silent Chain. Link-Belt Company.	Boiler Insulation. Armstrong Cork & Insulation Co. Celite Products Co.	Cars. American Clay Machinery Co. Biehl Iron Works. Clark Tractor Co. Conkey Co., H. D. Easton Car & Construction Co. Fate-Root-Heath Co. Hendrick Manufacturing Co. International Clay Mch. Co. Fate Company, J. D. Globe Machinery & Supply Co. Koppel Industrial Car and Equipment Co. Lancaster Iron Works. Manufacturers Equipment Co. Pettigrew Foundry Co. Robinson, Frank H. Steele & Sons, J. C. Toronto Fdry. & Machine Co. Watt Mining Car Wheel Co. Weller Mfg. Co.	Clamshells. Osgood Company, The	Conveyors (Portable). Barber-Greene Co. Lancaster Iron Works, Inc. Portable Machinery Co.
Automatic Stove Rooms Ceramic Equipment Co.	Belt Conveyors. American Clay Machinery Co. Caldwell & Son Co., H. W. Gandy Belting Co. Gilmer Co., L. H. Goodyear Tire & Rubber Co. International Clay Mach. Co. Lancaster Iron Works, Inc. Link-Belt Company. Manufacturers Equipment Co. Scandinavia Belting Co. Stanley Belting Co. U. S. Rubber Co. Weller Mfg. Co.	Brick Conveyors. Bonnot Co. Chambers Bros. Co. Link-Belt Company. Manufacturers Equipment Co. Mathews Gravity Carrier Co.	Clay Feeders and Mixers. American Clay Machy. Co. Bonnot Company. Fate Co., The J. D. Chambers Bros. Co. Freese & Co., E. M. International Clay Mach. Co. Lancaster Iron Works. Manufacturers Equipment Co. Marion Mach., Fdry Sup. Co. Robinson, Frank H. Steele & Sons, J. C. Stevenson Co. Weller Manufacturing Co.	Couplings (Shaft and Friction). Hill Clutch Co., The	Cranes, Jib. Godfrey Conveyor Co.
Automobile Trucks. Diamond T Motor Truck Co. Duplex Motor Truck Co. Federal Motor Truck Co. Kissel Motor Car Co. Packard Motor Car Co. Selden Truck Corp.	Barium Carbonates. Rollin Chemical Corp. Roessler Hasselacher Chem. Co.	Brick (Insulating). Celite Products Co.	Clay Gatherers. Eagle Iron Works. Sauerman Bros. Schofield-Burkett Cons. Co.	Cranes, Locomotive. Ball Engine Co. Bucyrus Company Link-Belt Company Marion Steam Shovel Co., The Osgood Co.	
Babbitt Metal. Hertz Metal Co., Theo. Toronto Fdry. & Mach. Co.	Belt Fasteners Crescent Belt Fastener Co.	Brick Machines. (See "Dry Press," "Stiff-Mud" and "Soft-Mud.")	Car Movers. Caldwell & Son Co., H. W. Clark Tractor Co. Marion M., Fdry. & S. Co. Weller Manufacturing Co.	Crushers and Pulverizers. American Clay Machy. Co. American Pulverizer Co. Arnold-Creager Co. Bonnot Co. Chambers Bros. Co. Fate-Root-Heath Co. Freese & Co., E. M. International Clay Mch. Co. K-B Pulverizer Co. Lancaster Iron Works, Inc. Manufacturers Equipment Co. Robinson, Frank H. Stevenson Co. Toronto Fdry. & Mach. Co.	
Barium Carbonates. Rollin Chemical Corp. Roessler Hasselacher Chem. Co.	Belt Lacing Crescent Belt Fastener Co.	Buckets, Dredging and Excavating. Ball Engine Co. Bucyrus Company Marion Steam Shovel Co., The	Castings. American Clay Machy. Co. Bonnot Co. Caldwell & Son Co., H. W. Chambers Bros. Co. Dodge Sales & Eng. Co. International Clay Mch. Co. Lancaster Iron Works. Link-Belt Company. Manufacturers Equipment Co. Marion Steam Shovel Co., The Pettigrew Foundry Co. Steele & Sons, J. C. Stevenson Co. Toronto Fdry. & Mach. Co.	Coal. Dering Coal Co., J. K.	Cutters, Automatic Rotary. American Clay Machy. Co. Arnold-Creager Co. Bonnot Co. Chambers Bros. Co. Fate-Root-Heath Co.
Barrows and Trucks. American Clay Machinery Co. Arnold-Creager Co. Bonnot Co. Clark Tractor Co. Chambers Bros. Co. Fate-Root-Heath Co. Freese & Co., E. M. International Clay Mch. Co. Lancaster Iron Works, Inc. Manufacturers Equipment Co. Robinson, Frank H. Steele & Sons, J. C. Toronto Fdry. & Mach. Co. Weller Mfg. Co.	Belt Hooks and Rivets Crescent Belt Fastener Co.	Buckets, Elevator. Hendrick Manufacturing Co. Link-Belt Company Robinson, Frank H. Weller Manufacturing Co.	Coal Handling Machinery. Columbus Conveyor Co. Godfrey, John F. Hendrick Manufacturing Co. Link-Belt Company. Weller Manufacturing Co.	Coal Pulverizers. Bonnot Co.	
Barytes, Carbonate of. Roessler Hasselacher Chem. Co. Rollin Chemical Corp.	Belt Preservative. Cling-Surface Co.	Burning System Elcock Quick Burning System Co. Flint River Brick Co.			
Belt Tighteners. Hill Clutch Co., The Weller Manufacturing Co.	Blasting Accessories. Atlas Powder Co.	Cables. Leschen & Sons Rope Co., A. Robinson, Frank H. Waterbury Co.			



POWERFUL—SPEEDY
4 AND 6 WHEEL TYPES
ANY GAUGE

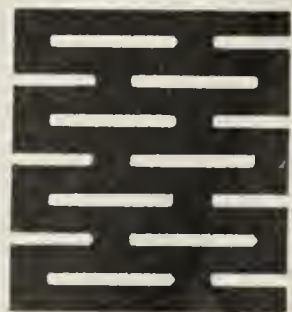
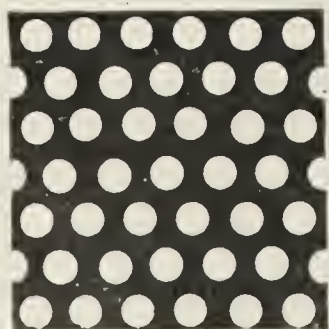
Pulls Heavier Trains on Level Track or Steep Grades

The Davenport Gear Drive Locomotives

will handle your work most successfully

Builders of

ROD AND GEAR DRIVE LOCOMOTIVES
DAVENPORT LOCOMOTIVE WORKS
DAVENPORT, IOWA



Perforated Metal Screens

for

Clay - Cement - Gravel
Stone, etc.

Prompt Shipments

HENDRICK MFG. CO.,
Carbondale, Pa.

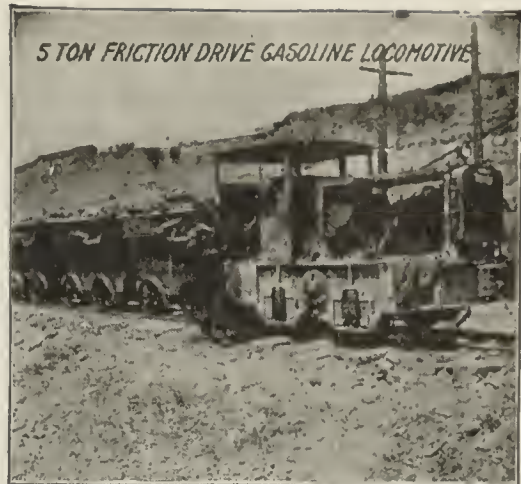
We will be glad to send samples



Gear and Friction Driven Gasoline Locomotives—2½ to 25 Tons on Drive Wheel

WHITCOMB LOCOMOTIVES

IT WILL PAY YOU TO GET OUR
PROPOSITION BEFORE YOU BUY
GEO. D. WHITCOMB CO.
MAIN OFFICE AND WORKS
ROCHELLE, ILLINOIS
U. S. A.



Storage Battery Locomotives—1 to 8 Tons On Drive Wheels

Style No. 12



A Time and Money Saver

We make a Steel Pallet that is just exactly
what your class of work requires

Our line of manufacture covers the entire Steel Pallet field.
No matter what pattern you need. If you require something quite out of the ordinary, so much the better. We can make it right, deliver it promptly and for the least price. Because we are specialists in this particular line.

Simply let us know what you need or send for complete descriptive matter.

The Ohio Galvanizing & Mfg. Co.
Niles, Ohio

Classified Advertisements

Continued from Pages 1340 and 1341

FOR SALE—One 50 H. P. horizontal steam engine. One upright Penfield brick and tile machine, one Creager disintegrator. Two hand brick represses, pulleys, shafting and belting. Drury Brick & Tile Co., Essex Junction, Vt. 6-3-2

CHOICE LOT OF MACHINERY AND SUPPLIES.

Five 1½-yard steel Lakewood, either side, dump cars, fine condition; one self contained steam hoist—can be used as belt drive, if desired; 1 automatic elevating machine for use in building; 1 10-ft. self contained steel and iron end delivery heavy duty pug mill; 1 "Hercules" soft clay machine; 1 Wellington mold sander; 1 Marsh boiler feed pump, two-inch suction, with receiving tank; 1 Boyd four-mould and 1 two-mould dry press; 1 Chambers special soft clay machine—suitable for either fire or common clay—condition like new; lot of fire clay steel bound wood moulds. C. H. Horton Co., Painesville, Ohio. 6-3TF

GAS PRODUCERS

Immediate delivery of complete installation of three International Gas Producers with flues and burners. Were in use only eight months. The Bedford China Co., Bedford, Ohio. 6TF

FOR SALE—Patterns, also four sets of non-lubricating radial chimney brick dies for soft mud machine. C. Schwartz, 523 Shippen Street, West Hoboken, N. J. 6-3-2

FOR SALE—1 Elwell-Parker and two Automatic Transportation Company two-ton elevating platform electric trucks equipped with Edison batteries. All are in good second-hand condition. Bargains. Address: 5-2 Trucks, care of "Brick and Clay Record." 5-2TF

FOR SALE—Byers auto gas crane, 30 ft. bottom with ¾-yard bucket—used two months. Immediate delivery. Address: 6-3Crane, care of "Brick and Clay Record." 6-3-1

FOR SALE—60 dryer cars for brick or tile, 22 in. gage. Also 2 transfer cars. Address: 6-2TC, care of "Brick and Clay Record." 6-3

FOR SALE—American auger machine No. 43 in good order. American pug mill No. 53, good as new. Heavy Raymond smooth roll crusher. Raymond hand press. New. All very cheap. Beatrice Brick Works, Beatrice, Nebr. 6-3-2P

FOR SALE—No. 80 American Blower Company "Sirocco" steel plate fan, ¾ housed, downward discharge 24 inches square, direct connected to 5-inch by 5-inch vertical steam engine. Ithaca Brick Co., Ithaca, N. Y. 6-3-1

FOR SALE—60 ft. belt clay conveyor, Weller Manufacturing Company, 16-inch belt, new, complete. Has never been installed. Will sell cheap. The Havre Brick Company, Havre, Mont. 6-3-4

FOR SALE—One Chambers Brothers stiff-mud brick machine, 50,000 capacity. Price 25 per cent. of original cost. C. W. Raymond Company's double die power repress, in good condition. Price 50 per cent of cost. A lot of six-brick wooden brick-moulds made by the Arnold people. One crude oil burning equipment consisting of pump, burners, pipe, valves & C. Also one No. 0 Thew shovel located at Suffolk, Va. Also one latest Model No. 6 Steele & Sons Brick machine and clay feeder, new—never used at all. Address: 6-3 Equipment, care of "Brick and Clay Record." 6-3TF

FOR SALE—One three-kiln hollow tile and drain tile plant. This plant is modern and up-to-date, and is operating at the present time. The death of one of the owners makes it necessary to sell. Address: 5-2FO, care of "Brick and Clay Record." 5-2TF

FOR SALE—One Otis light worm geared freight elevator. Fifteen hundred pound capacity. Platform 48x54. Excellent condition. \$400. Matawan Tile Company, Matawan, N. J. 6-3-1P

FOR SALE—One No. 2 two-mould Chambers Brothers brick repress. Box 536, Niagara Falls, New York. 6TF

FOR SALE—One 25 H. P. type Y. Fairbanks Morse oil engine. Good as new. The Wickliffe Supply Company, Wickliffe, Ohio. 6-3-1

FOR SALE—1,200 white pine pallets for handling sand mould brick. \$125 for the lot. F. O. B. cars Ottumwa. Morey Clay Products Co., Ottumwa, Iowa. 6-3-2P

Buyers' Directory of Manufacturers—Continued

Freese & Co., E. M. International Clay Mch. Co. Manufacturers Equipment Co. Marion M., Fdry. & S. Co. Robinson, Frank H. Steele & Sons, J. C.	Ditching Machines. Ball Engine Co. Bay City Dredge Works. Buckeye Traction Ditcher Co. Bucyrus Company Marion Steam Shovel Co., The Osgood Company, The	Dry Press Brick Machines American Clay Machy. Co. International Clay Mch. Co. Robinson, Frank H.	Engines and Boilers. American Clay Machy. Co. Ball Engine Co. Bonnot Co. Freese & Co., E. M. Manufacturers Equipment Co. Robinson, Frank H. Tri-State Engineering Co.	International Clay Mch. Co. Tri-State Engineering Co.	Gloves Des Moines Glove Mfg. Co.
Cutting Wires. Manufacturers Equipment Co. Robinson, Frank H.	Dredges. Bay City Dredge Works. Bucyrus Company Marion Steam Shovel Co., The Osgood Company, The	Dynamite. Atlas Powder Co.	Excavating Machinery. Ball Engine Co. Bay City Dredge Works. Bucyrus Company. Link-Belt Company. Marion Steam Shovel Co., The Osgood Company, The Sauerman Bros. Schofield-Burkett Cons. Co. Thew Automatic Shovel Co.	Flower Pot Machinery. Baird Machine & Mfg. Co.	Granulators. American Clay Machy. Co. Bonnot Co. Chambers Bros. Co. Fate-Root-Heath Co. Freese & Co., E. M. International Clay Mch. Co. Lancaster Iron Works, Inc. Steele & Sons, J. C. Toronto Fdry. & Mach. Co.
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Digger. Buckeye Traction Ditcher Co. Bucyrus Company Bay City Dredge Works.	Dryers. American Clay Machy. Co. Bonnot Co. Ceramic Equipment Co. Fate-Root-Heath Co. International Clay Machy. Co. Lancaster Iron Works. Manufacturers Equipment Co. Philadelphia Drying Machinery Co. Proctor & Schwartz, Inc. Robinson, Frank H. Steele & Sons, J. C. Trautwein Dryer & Engineering Co.	Electrical Industrial Trucks. Karry-Lode Industrial Truck Co. Koppel Industrial Car and Equipment Co.	Excavators, Dragline. Bucyrus Company Marion Steam Shovel Co. Sauerman Bros. Schofield-Burkett Cons. Co.	Furnace Insulation. Armstrong Cork & Insulation Co. Cellite Products Co.	Gravity Carriers. Mathews Gravity Carrier Co.
Digging Machinery. American Clay Machy. Co. Ball Engine Co. Bay City Dredge Works. Bucyrus Company Link-Belt Company. Marion Steam Shovel Co. Osgood Company. Sauerman Bros. Schofield-Burkett Cons. Co. Thew Automatic Shovel Co.	Dryers (Sand) American Clay Machy. Co. Arnold-Creager Co. Bonnot Company. Fate-Root-Heath Co. Lancaster Iron Works, Inc. Stevenson Co.	Explosives. Atlas Powder Co.	Fans. American Clay Machy. Co. Bonnot Co. Freese & Co., E. M. International Clay Mch. Co. Robinson, Frank H.	Gas Producers. International Clay Mch. Co.	Heat Insulation. Armstrong Cork & Insulation Co. Cellite Products Co.
Disintegrators. American Clay Machinery Co. Arnold-Creager Co. Bonnot Co. Chambers Bros. Co. Fate-Root-Heath Co. Freese & Co., E. M. International Clay Mch. Co. Lancaster Iron Works, Inc. Manufacturers Equipment Co. Marion M., Fdry. & Sup. Co. Robinson, Frank H. Steele & Sons, J. C.	Dry Pans. American Clay Mch. Co. Bonnot Co. Chambers Bros. Co. Eagle Iron Works. Fate-Root-Heath Co. Freese & Co., E. M. International Clay Mch. Co. Lancaster Iron Works, Inc. Manufacturers Equipment Co. Robinson, Frank H. Stevenson Co. Toronto Fdry. & Mach. Co.	Engineers. Dildler-March Co. Schaffer Engineering & Equipment Co., The Trautwein Dryer & Engineering Co. Tri-State Engineering Co.	Feed Water Heaters. Canton Grate Co. Freese & Co., E. M.	Gears. Caldwell Co., W. E. Caldwell & Son Co., H. W. Baird Machine & Mfg. Co. Dodge Sales & Eng. Co. General Electric Co. Hill Clutch Co., The Link-Belt Company Weller Manufacturing Co. Westinghouse Electric & Mfg. Co.	Holsts. American Clay Machy. Co. Bonnot Co. Chambers Bros. Co. Fate-Root-Heath Co. Godfrey Conveyor Co. International Clay Mch. Co. Lancaster Iron Works, Inc. Link-Belt Company. Manufacturers Equipment Co. Weller Mfg. Co.

Save Labor— Use Gravity

Today's supply of labor is far too precious—and uncertain—its cost too great, to be consumed in such non-productive details as carrying or wheeling materials about, loading and unloading cars, etc.

Use Gravity! It's free! Harness it! There's work—a job, a place, a detail—about every plant, operation or warehouse, be it large or small, where Gravity can be used, and time, labor and money saved.

Mathews Gravity Conveyor systems can be fitted, section by section, portably or permanently, to any industry, plant, yard, operation or production route. Mathews drawn-steel, ball-bearing rollers are so perfectly balanced and responsive to Gravity that most anything, from fragile objects to heavy crates, boxes, barrels, bags, castings, bricks, tile, are conveyed gently at very slight inclines and at a moderate, uniform rate of speed.

Do yourself the good turn to look into gravity conveying. Drop us a line. We've a branch office near you, and a sales engineer courteous and willing to go over your plant and problems, point out the economies a Mathews can effect for you, and recommend the equipment your layout and business require—all without any obligation whatever on your part.

Member Material Handling Machinery Manufacturers' Association.

Writes the firm of Baldauf & Schientz, Builders' Supplies, Marion, Ohio:—"The conveyor equipment you shipped us Jan. 30th received and has been used in unloading several cars of hollow tile and brick. We find we can save the labor of one or two men and do the unloading about 50% more rapidly than we could without them—which effects still another big saving in the time consumed by our trucks in loading."



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SPEED ECONOMY
GRAVITY ROLLER CONVEYER

Mathews Gravity Carrier Co.
108 Tenth Street Ellwood City, Pa.

Branch Offices: Port Hope, Ontario—London, England



“They are what the boys need. Please ship us two dozen pairs at once”—

is what Mr. Casey, of the Colfax Drain Tile Co., Colfax, Ind., wrote us, in regard to TUFTANNED KANTRIP MITTENS.

All farsighted employers are using their heads in considering the hands of the men who handle their products. Help is scarce.

The TUFTANNED KANTRIP MITTENS

will save time and money for any brick plant that will furnish these to their men at cost or at a small profit.

We also furnish the Adjustable Hand Pad—Heavy Split Cowhide—will fit any hand. Per dozen pair—\$4.50. Per gross pair—\$50.00.

Order a sample dozen of each of these protectors today. Let one of your men use a pair for two weeks. If he is not satisfied, return the worn pair and the other eleven and there will be no charge.

Des Moines Glove Manufacturing Co.
508 Fourth Street
Des Moines, Iowa

No. 300. \$8.40 doz.; in Gross Lots \$86.40, or a saving of 16 $\frac{2}{3}$ %.

STEELE CLAY WORKING MACHINERY

For Plants of Various Capacities, From Smallest to Largest.

Five sizes of Brick Machines, together with the Side Cutters and End Cutters that you have heard about.

Pug Mills, Crushers, Disintegrators, Hoists, Lift Cars, Clay Cars, Block Machines, Tile Machines, Etc.

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Northern Agents: The Manufacturers Equipment Co., Dayton, Ohio

Eastern Agents: Carter Engineering Co., 39 Cortlandt St., New York City

Buyers' Directory of Manufacturers—Continued

Hollow Brick Machinery. American Clay Machy. Co. Bonnot Co. Chambers Bros. Co. Fate-Root-Heath Co. Freese & Co., E. M. International Clay Mch. Co. Manufacturers Equipment Co. Robinson, Frank H. Steele & Sons, J. C. Stevenson Co.	Caldwell Co., Inc., W. E. Clark Tractor Co. Fate Co., J. D. International Clay Mch. Co. Lancaster Iron Works, Inc. Manufacturers Equipment Co. Robinson, Frank H. Tri-State Engineering Co.	Mercury Column Vacuum Gages. Taylor Instrument Companies	Paints. Williams & Co., C. K.	Power Plant Equipment (Complete). American Clay Machy. Co. Ball Engine Co. Bonnot Co. Dodge Sales & Eng. Co. Link-Belt Company. Weller Mfg. Co. Westinghouse Electric & Mfg. Co.	Pumps, Dredging and Sand. Bucyrus Company Marion Steam Shovel Co., The Pulsometer Steam Pump Co. Pumps (Steam). Pulsometer Steam Pump Co.
Kiln Expert. Balz, Geo. A. Haigh, L. Minter, M. M.	Kiln Insulation. Armstrong Cork & Insulation Co. Celite Products Co.	Metals (Perforated). Hendrick Manufacturing Co. Robinson, Frank H.	Pans, Dry Pans, Wet Pans, Clay or Chaser Mills Combination Tempering Pans. American Clay Machy. Co. Bonnot Co. Chambers Bros. Co. Fate-Root-Heath Co. Freese & Co., E. M. International Clay Mch. Co. Lancaster Iron Works, Inc. Manufacturers Equipment Co. Robinson, Frank H. Toronto Fdry. & Mach. Co. Stevenson Company.	Pyrometers. Bristol Co. Brown Instrument Co. Engelhard, Chas. Leeds & Northrup Co. Price Electric Co. Taylor Instrument Companies Thwing Instrument Co.	
Hose. Goodyear Tire & Rubber Co. U. S. Rubber Co.	Loaders (Wagon and Truck). Columbus Conveyor Co. Link-Belt Company.	Molds. American Clay Machy. Co. Arnold, Creager Co. Baird Machine & Mfg. Co. Bonnot Co. Lancaster Iron Works. Manufacturers Equipment Co.	Power Transmission. Caldwell Co., W. E. Caldwell & Son Co., H. W. Dodge Sales & Eng. Co. Hill Clutch Co. International Clay Mch. Co. Link-Belt Company. Weller Manufacturing Co.	Railroad Ditchers. Ball Engine Co. Bucyrus Company Marion Steam Shovel Co., The Osgood Co.	
Hydrometers or Moisture Indicators. Taylor Instrum't Companies. Lancaster Iron Works. Manufacturers Equipment Co.	Locomotives. Brookville Truck & Tractor Co. Burton Engineering & Machinery Co., The Davenport Locomotive Works. Fate-Root-Heath Co. General Electric Co. Goodman Mfg. Co. Westinghouse Electric & Mfg. Co. Whitcomb Co., Geo.	Mold Sanders. American Clay Machy. Co. Arnold-Creager Co. International Clay Mch. Co. Lancaster Iron Works, Inc. Manufacturers Equipment Co.	Pallets and Trays. Lancaster Iron Works, Inc. Ohio Galvanizing & Mfg. Co. Robinson, Frank H.	Pug Mills. American Clay Machy. Co. Baird Machine & Mfg. Co. Bonnot Co. Chambers Bros. Co. Fate-Root-Heath Co. Freese & Co., E. M. International Clay Mch. Co. Lancaster Iron Works, Inc. Manufacturers Equipment Co. Robinson, Frank H. Steele & Sons, J. C. Stevenson Co. Toronto Fdry. & Mach. Co. Tri-State Engineering Co.	Rails (Frogs and Switches). Chase Fdry. & Mfg. Co. Robinson, Frank H.
Insulating Materials (Heat). Armstrong Cork & Insulation Co. Celite Products Co.	Motor Trucks. Diamond T Motor Truck Co. Duplex Motor Truck Co. Federal Motor Truck Co. Kissel Motor Car Co. Packard Motor Car Co. Selden Truck Corp.	Motors—Electric. General Electric Co. Westinghouse El. & Mfg. Co.	Perforated Sheet Metal. Hendrick Mfg. Co. Harrington & King Perforating Co. Robinson, Frank H.	Recording Pressure Gages. Brown Instrument Co. Price Electric Co. Taylor Instrument Companies	
Kilns. American Dressler Tunnel Kilns, Inc. American Clay Machy. Co. Chambers Bros. Co. Fate-Root-Heath Co. Flint River Brick Co. Holt & Co., Geo. H. International Clay Mch. Co. Manufacturers Equipment Co. Owens Continuous Tunnel Kiln Co. Schaffer Eng. & Equip. Co. Zwermann Co., Carl.	Locomotive Cranes. Ball Engine Co. Bucyrus Company Link-Belt Company Marion Steam Shovel Co. Osgood Company, The	Motor Trucks. Diamond T Motor Truck Co. Duplex Motor Truck Co. Federal Motor Truck Co. Kissel Motor Car Co. Packard Motor Car Co. Selden Truck Corp.	Poldometer. Schaffer Eng. & Equip. Co.	Represses. American Clay Machy. Co. Arnold-Creager Co. Bonnot Co. Chambers Bros. Co. Freese & Co., E. M. International Clay Mch. Co. Robinson, Frank H. Steele & Sons, J. C.	
Kiln Accessories. American Clay Machinery Co. Arnold-Creager Co.	Manganese. Lavino & Co. Roessler & Hasslacher Chemical Co.	Oil Burners. Lancaster Iron Works. Schurs Oil Burner Co. Weller Mfg. Co.	Portable Track. Manufacturers Equipment Co. Robinson, Frank H.	Revolving Screens. Hendrick Manufacturing Co. Robinson, Frank H. Weller Manufacturing Co.	
	Mangles. Ceramic Equipment Co. Philadelphia Drying Machy. Co.	Packing. Goodyear Tire & Rubber Co. U. S. Rubber Co.	Potters' Machinery. Bonnot Co. Baird Machine & Mfg. Co. Fate-Root-Heath Co. International Clay Machy. Co. Tri-State Engineering Co.		
			Powder. Atlas Powder Co.	Pulley, Cast Iron. Caldwell & Son Co., H. W. Dodge Sales & Eng. Co. Hill Clutch Co., The Weller Manufacturing Co.	
				Pulsometer. Pulsometer Steam Pump Co.	
				Pulverizers. American Pulverizer Co. K-B Pulverizer Co. Robinson, Frank H. Stevenson Co. Toronto Fdry. & Mach. Co.	

Dering Indiana No. 4 Seam Coal

LONG FLAME  **LOW IN ASH**

ESPECIALLY ADAPTED FOR CLAY
PRODUCTS PLANTS TO BURN
ANY KIND OF CLAY WARE

J. K. DERING COAL CO.

1914-1920 McCormick Building
332 South Michigan Avenue
Chicago

Pyrometers

that are cheaper in the end—

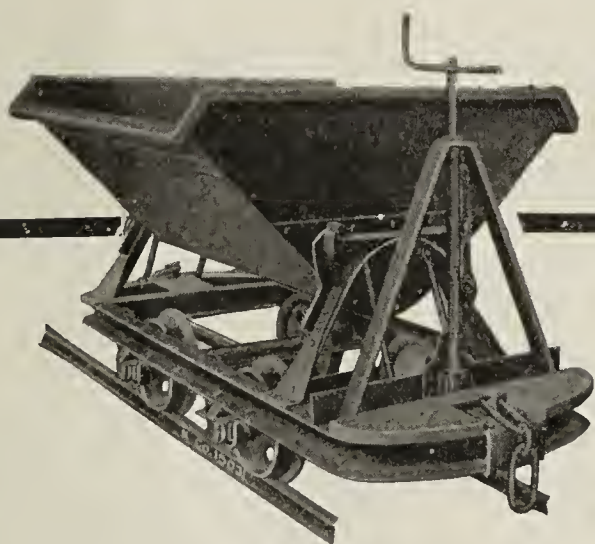
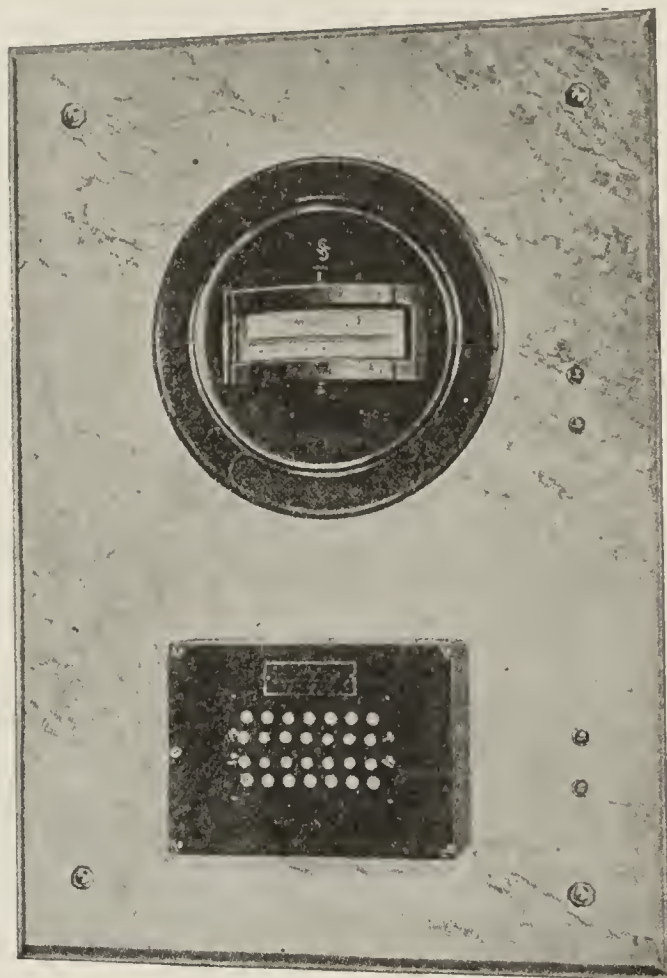
It is not what a pyrometer costs, but what it ultimately *does*, that determines its real cost value.

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No. 15031

KOPPEL CARS for BRICK PLANTS



The Dump Car

Easy to load and discharge,—stands the wear of hard service.

The Dryer Car

Roller Bearing equipped, easily moved, strongly built, made in single, double and triple deck type.

The Electromobile

A necessity in plants where speed and production counts. Will pay for itself in labor saved alone.

We furnish complete haulage systems for brick plants, tracks, switches, cars, etc.

Your inquiries solicited

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Buyers' Directory of Manufacturers—Continued

Roofing Tile Machinery. American Clay Machy. Co. Bonnot Co. Fate-Root-Heath Co. Freese & Co., E. M. International Clay Mchy. Co.	Chambers Bros. Co. Fate-Root-Heath Co. Freese & Co., E. M. Harrington & King Perforat- ing Co. Hendrick Mfg. Co. International Clay Mch. Co. Lancaster Iron Works. Link-Belt Company. Schofield-Burkett Cons. Co. Stevenson Co. Weller Mfg. Co.	Link-Belt Company Thew Automatic Shovel Co. Osgood Co. Weller Manufacturing Co.	Stokers. Westinghouse Electric & Mfg. Co.	Steele & Sons, J. C. Stevenson Co. Toronto Fdry. & Mach. Co.	Turntables. American Clay Machinery Co. International Clay Mach. Co. Lancaster Iron Works Robinson, Frank H. Toronto Fdry. & Mach. Co.
Rope Drives. Dodge Sales & Eng. Co. Hill Clutch Co., The Weller Manufacturing Co.	Screw Conveyors. Caldwell & Son Co., H. W. Weller Manufacturing Co.	Silent Chain Drives. Link-Belt Company.	Storage Batteries. Edison Storage Battery Co. Electric Storage Battery Co.	Tires. Goodyear Tire & Rubber Co. U. S. Rubber Co.	Unloader. Columbus Conveyor Co. Sunbury Mfg. Co.
Rope (Wire and Manila). Leschen & Sons Rope Co. Manufacturers Equipment Co. Robinson, Frank H. Westerbury Co.	Sewer Pipe Machinery. American Clay Machy. Co. Bonnot Co. Manufacturers Equipment Co. Stevens Company. Toronto Fdry. & Mach. Co.	Sleeves, Nozzles and Runner Brick Machy. Balrd Machine & Mfg. Co.	Supplies. American Clay Machy. Co. Arnold-Creager Co. Bonnot Co. Chambers Bros. Co. Freese & Co., E. M. International Clay Mchy. Co. Lancaster Iron Works Manufacturers Equipment Co. Robinson, Frank H. Steele & Sons, J. C. Stevenson Co. Toronto Fdry. & Mach. Co. Weller Mfg. Co.	Tractors. Clark Tractor Co.	Valves. Goodyear Tire & Rubber Co. Jenkins Bros. Co. U. S. Rubber Co.
Rotary Dryers. Lancaster Iron Works, Inc.	Shafting. Dodge Sales & Eng. Co. Hill Clutch Co., The Caldwell & Son Co., H. W.	Soft Mud Brick Machines. American Clay Machy. Co. Arnold-Creager Co. Bonnot Co. Chambers Bros. Co. International Clay Mchy. Co. Lancaster Iron Works. Manufacturers Equipment Co. Robinson, Frank H.	Tanks and Tank Towers. Caldwell Co., Inc., W. E. Hendrick Manufacturing Co. Lancaster Iron Works, Inc. Tri-State Engineering Co.	Tramways (Aerial Wire Rope). Link-Belt Company.	Wagon and Truck Loaders. Link-Belt Company.
Rubber Goods. Goodyear Tire & Rubber Co. U. S. Rubber Co.	Sheaves. Hill Clutch Co., The Tri-State Engineering Co. Weller Manufacturing Co.	Sprockets. Caldwell & Son Co., H. W. Dodge Sales & Eng. Co. Link-Belt Company Union Chain & Mfg. Co. Weller Manufacturing Co.	Temperature & Pressure Reg- ulators. Taylor Instrument Companies	Transmission Machinery. Hill Clutch Co. Weller Manufacturing Co.	Watchman's Clocks. Taylor Instrument Companies
Sand Lime Brick Machinery. American Clay Machy. Co. Manufacturers Equipment Co.	Shovels (Hand). Conneaut Shovel Co.	Stacks. Hendrick Manufacturing Co. Lancaster Iron Works, Inc. Tri-State Engineering Co.	Thermometers Bristol Co. Brown Instrument Co. Engelhard, Chas. Manufacturers Equipment Co. Taylor Instrum't Companies Thwing Instrument Co.	Transmission, Silent Chain. Link-Belt Company.	Wheels. Biehl Iron Works Co. Robinson, Frank H. Tri-State Engineering Co. Watt Mining Car Wheel Co.
Scrapers, Plows and Clay Gatherers. Eagle Iron Wks. Co. Sauerman Bros. Schofield-Burkett Cons. Co. Toronto Fdry & Mach. Co.	Shovels (Power). Ball Engine Co. Bucyrus Company. Marion Steam Shovel Co., The	Stiff Mud Brick Machines. American Clay Machy. Co. Arnold, Creager Co. Bonnot Co. Chambers Bros. Co. Fate-Root-Heath Co. Freese & Co., E. M. International Clay Mchy. Co. Robinson, Frank H. Steele & Sons, J. C.	Tile Machinery. American Clay Machy. Co. Arnold-Creager Co. Bonnot Co. Chambers Bros. Co. Fate-Root-Heath Co. Freese & Co., E. M. International Clay Mchy. Co. Lancaster Iron Works Manufacturers Equipment Co. Robinson, Frank H.	Trucks (Motor) Diamond T Motor Truck Co. Duplex Motor Truck Co. Federal Motor Truck Co. Kissel Motor Car Co. Packard Motor Car Co. Selden Truck Corp.	Wheelbarrows. American Clay Machy. Co. Arnold-Creager Co. Bonnot Co. Chase Fdry. & Mfg. Co. Fate-Root-Heath Co. Freese & Co., E. M. International Clay Mchy. Co. Manufacturers Equipment Co. Robinson, Frank H. Steele & Sons, J. C. Toronto Fdry & Mach. Co. Weller Mfg. Co.
Screens (Clay and Cement). American Clay Machy. Co. Bonnot Co.		Steel Pallets. Lancaster Iron Works, Inc. The Ohio Galvanizing & Mfg. Co.		Trucks (Industrial, Electric) Karry-Lode Industrial Truck Co. Clark Tractor Co. Koppel Industrial Car & Eq. Co.	Winding Drums. American Clay Machy. Co. Arnold-Creager Co. Fate-Root-Heath Co.
				Trucks (Industrial, Gasoline) Clark Tractor Co.	Wire Rope. Leschen & Sons Rope Co. Manufacturers Equipment Co. Robinson, Frank H. Waterbury Co.
				Tubing. Goodyear Tire & Rubber Co. U. S. Rubber Co.	
				Turbine Generators. Westinghouse Electric & Mfg. Co.	



OSGOOD 18

CONTINUOUS TREAD TRUCKS

are interchangeable with the traction wheel trucks and are easily attached to the underside of the cast steel truck frame.

The outfit is very compact so as to interfere as little as possible with the operation of the dipper.

When you've seen an OSGOOD 18 3/4 yd. Revolving Steam Shovel "on the job" then you will realize the reason for its universal popularity among clay product manufacturers, municipal engineers and construction men.

Our General Catalog E-1 will be mailed on request.

Revolving and Railroad Types 3/4 to 6 cu. yds.

THE OSGOOD COMPANY, Marion, O.

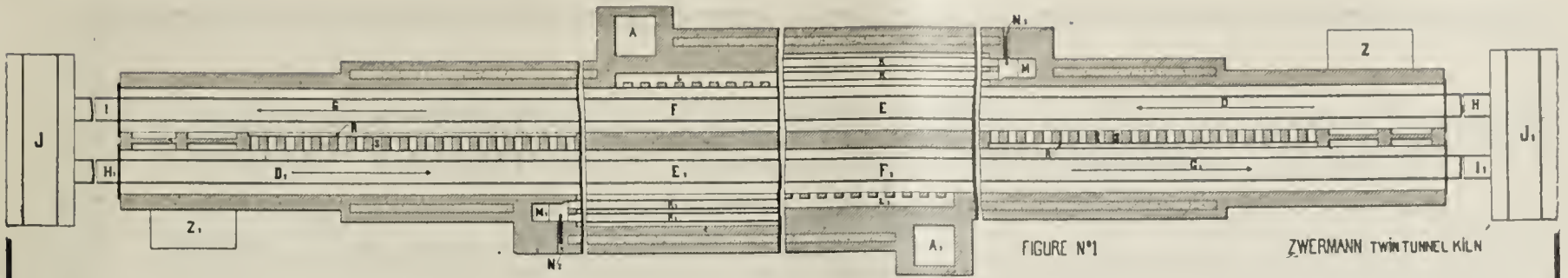


FIGURE N°1

ZWERMANN TWIN TUNNEL KILN

The Zwermann Twin Tunnel Kiln

Represents the "Last Word" in economical and efficient burning

It successfully burns all ware. Its cost of construction as well as its maintenance cost is less than any single tunnel of like capacity. It requires less brick, less space and no side or return track. It allows a greater utilization of fuel

than a single tunnel kiln, as the heat from the cooling ware is used for watersmoking the incoming ware.

Cooling, watersmoking and pre-heating is automatic.

Let us explain in detail how these important features can help you in Economical and Efficient burning. Write for Circular.

THE ZWERMANN COMPANY

CARL H. ZWERMANN
Pres. and Gen. Mgr.

ROBINSON, ILLINOIS

MOST BIG PLANTS IN THE MIDDLE WEST USE

Globe Dryer Cars

EASY TO RUN

STRONG

The standard size is 24-inch track gauge with body 3 ft. 2 in. by 6 ft. 11 in. Distance between decks is 1 ft. 9 in.

The capacity of the car is from 500 to 600 brick, and is carried on roller bearing brackets, thus enabling the operator to start and stop car without jar, and to move it with little effort.

The construction is rigid and sturdy. The decks can be of channel or wood. The uprights are 3x3½x¼, held in place by heavy gusset plates.

Write Dept. G for Literature



Manufactured by
Globe Machinery Supply Co.
Des Moines, Ia.

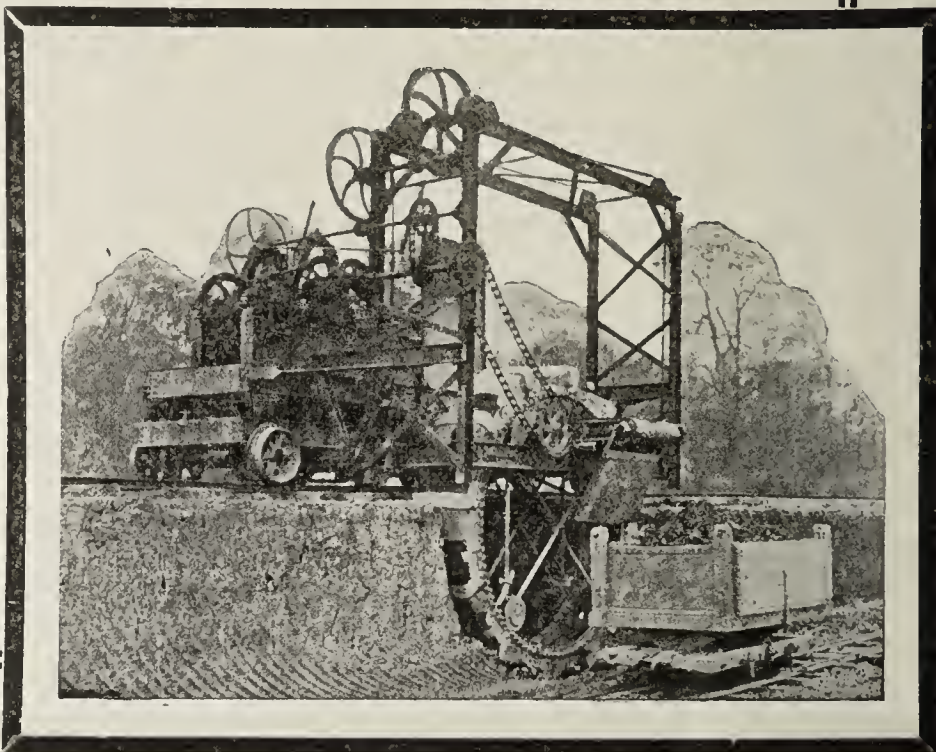
Repairs Eliminated---Fuel Saved---is PROFIT MADE

Perfect mixture and saving in labor are not the only points to consider when you buy a clay digging machine. The cost of upkeep is of equal importance. A digger that mixes clay and saves labor, but runs up expense for fuel, and repairs, is an expensive machine at any price.

"The upkeep of The New Model C. M. Buckeye Traction Clay Digger is small," writes one customer. "The only thing wearing out to any extent being the spades of the cutters that shear the clay off, and the side cutters. Our blacksmith relays these with steel. It takes only two sets of cutters to run the season. The cost of oil and grease is negligible."

Write us about the conditions in your clay pit. We will be pleased to send you figures and data.

The Buckeye Traction Ditcher Co.
Findlay, Ohio



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It is probable that a new problem presents itself to you—or to some of your associates at least once each week. Do you solve it satisfactorily or do you let it slide? Why not insure yourself against such incidents? Start a factory library, fill it with a few choice books that deal with your plant and manufacturing problems. From this list you should be able to select a splendid assortment.

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Handle Bricks Quicker and Cheaper With Storage Battery Vehicles

In the brick and tile industry manufacturers are solving the problem of labor shortage and high wages and are handling materials quicker and cheaper by using Industrial Trucks and Tractors equipped with Edison Storage Batteries.

EDISON STORAGE BATTERIES in your Industrial Trucks and Tractors assure you of maximum service efficiency. They are built of STEEL and IRON with an ALKALINE (non-acid) solution. Their ruggedness and strength are a sure guarantee of long life, lowest up-keep cost, and a truck that is always on the job.

Let us show you why these "electrics" are always "on the job" cutting handling costs. Write for Bulletin 600-BC today.

Edison Storage Battery Co.

Factory and Main Office:

ORANGE, N. J.

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This machine loads, carries and discharges automatically 2,000 bricks each trip—a big time and labor saver.



The wheelbarrow carries only 80 bricks while the storage battery truck carries 450—some difference.

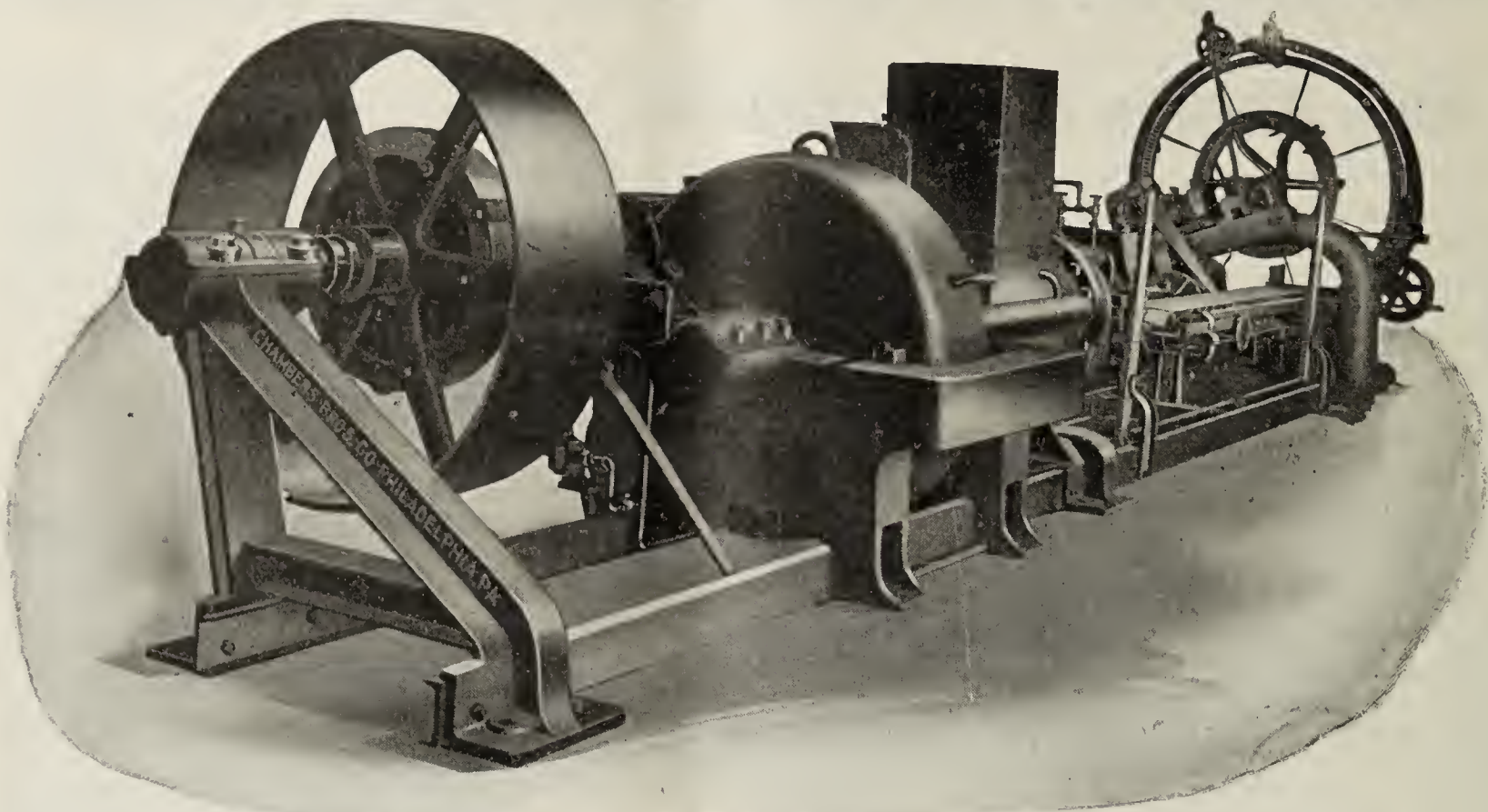
Look into this—
You will see, then, that
THE J. B. OWENS CONTINUOUS RAILROAD
TUNNEL KILN
embodies all the qualities essential to the perfect
firing of every clay product, with none of the faults that
have, since the earliest ages, barred the gate of success
against clay manufacturers—
Look into it - You will see!

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IT'S GOOD - BECAUSE IT'S MADE GOOD!

The J. B. Owens Continuous Tunnel Kiln Co.
 300 - Westinghouse Bldg - Pittsburgh - Pa.

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This Outfit Has Produced 200 Tons of Building Tile in 8 Hours.

CHAMBERS BROS. CO., Philadelphia, Pa.

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8c per word for first insertion.
6c per word for each additional insertion; \$1.00 minimum charge.
Write for our card of display classified rates if you are interested in larger space.

Results! Results!

Classified ads in "Brick and Clay Record" produce results. Concerns like Fraser Brick Co., The Chanute Brick and Tile Co., Sphar Brick Co., and scores of others have written to tell us so. Below we quote from a few of the many complimentary letters received:

"Kindly discontinue this ad, as we sold all the car racks the first of the month, thanks to your good publication."

"Results obtained are so satisfactory that it will not be necessary to reinsert the advertisement."

"I thank your company for the good service rendered to me; as an advertising medium, I will say that your paper gets the results. Not less than 75 letters I received on three small ads."

"We wish to compliment you on the good results obtained thru advertisement carried in the 'Brick and Clay Record'. We carried our advertisement in several different publications, and ad carried through your columns is the only one that brought us results."

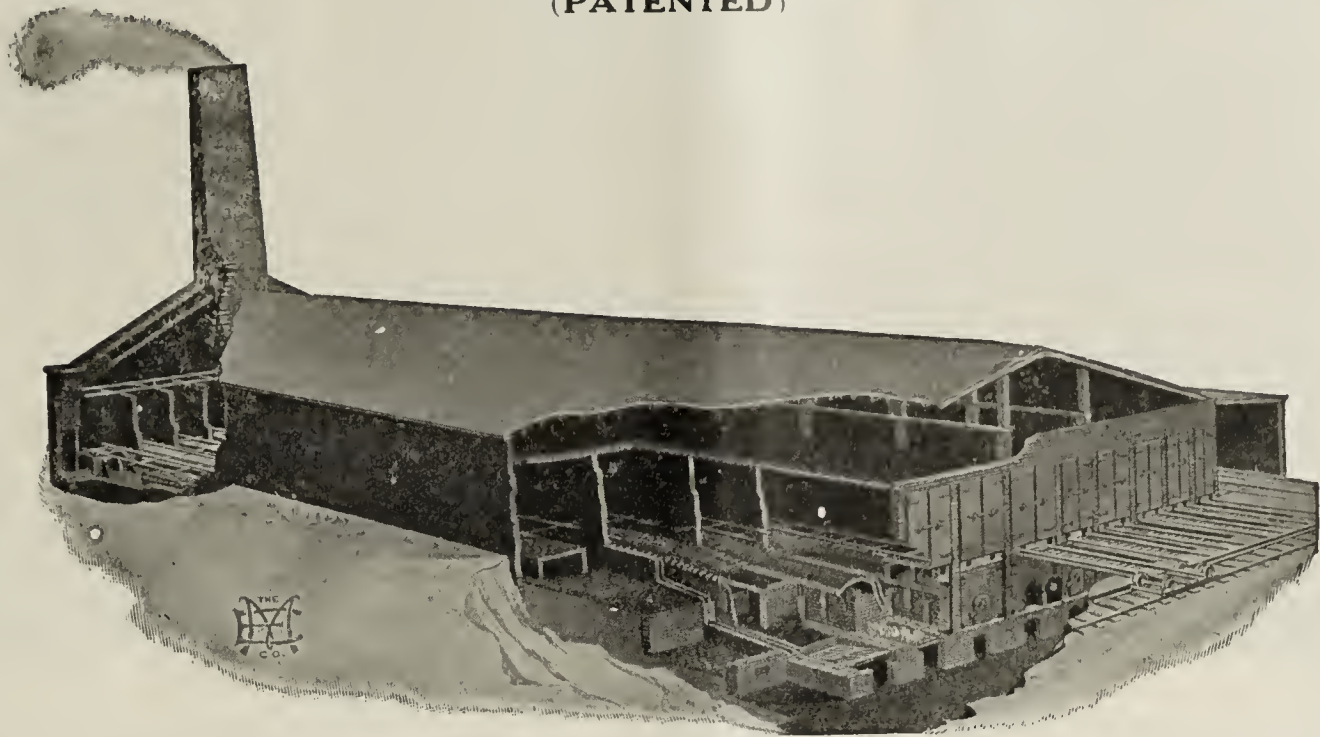
"Had excellent results from the ad, and have purchased everything I need at the present."

"Brick and Clay Record" is published every other Tuesday—no long waits between issues. Send in your order now.

BRICK AND CLAY RECORD, 610 Federal St., Chicago, Ill.

THE JUSTICE RADIATED HEAT DRYER

(PATENTED)



Justice Dryers

Hold the Premier position in the Ceramic Industry.

They dry more ware with less fuel and labor than any other.

They are original creations—not copies or usurpations.

They are represented in two distinct systems—Radiated Heat and Waste Heat.

They are fireproof and indestructible—no cost for upkeep.

Radiated Heat Dryers are Producer gas-fired; coal fire or other fuels may be used.

Waste Heat Dryers operate with a single fan, no useless exhaust fans required.

They are in use everywhere.

Every Justice Dryer is a Money Saver.

Write for our Dryer Literature

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Our Contribution to Your Library

Within the past half decade, *Brick and Clay Record* has added to the permanent collection of ceramic literature, not only in America, but also abroad, at least three noteworthy volumes in attractive cloth binding.

Most American clay products manufacturers are thoroly familiar with the situation as it concerned clayworking literature as early as five years ago. Many of the books in the average clay worker's library were of foreign production—books written by English, French and German ceramists covering clay plant practices in their respective countries—very good books in their time but wholly inadequate for the American clayworker working under conditions vastly different from his European colleagues.

Seeing the need for ceramic literature with a distinctly American viewpoint, the editors of *Brick and Clay Record* set about to supply the need. What you see in the illustration above is the result of our labors.

"Clay Plant Construction and Operation," is our most recent production. It ought to have a place as a text book in every university or college that maintains a course in ceramic engineering. It is written by A. F. Greaves-

Walker, a ceramic engineer with a wealth of practical experience in the business. The price of this handsomely bound volume is \$4.00 postpaid.

"Scientific Industrial Efficiency," by Dwight T. Farnham, a prominent industrial engineer in the clay products manufacturing industry, has now been on the market for more than two years, enjoying a phenomenal sale, not only in the clayworking industry, but also among manufacturers in many other lines. This book is considered to be a standard reference work wherever scientific industrial efficiency is being considered. The price of this book is only \$2.00 postpaid.

"Clayworking Problems" is to the clay plant as the veteran medical adviser is to the home. It is consulted in times of distress—when the plant or any part thereof is "sick." There is only a very limited quantity of this book left which means that if you have not secured your copy as yet you had better make no further delay. The price is only \$1.50 postpaid.

These three valuable books are our contribution to your clayworking library. Are they there in your bookcase? If not, better order at once, the missing volumes. Send your check, money order, or draft to

BRICK & CLAY RECORD'S Book Department, 610 Federal St., Chicago, Ill.

DUPLEX TRUCKS

BUILT FOR BUSINESS

Careless Truck Buying Makes Transportation Cost Too Much!

The Truck is a Piece of Business Machinery. It Should Represent the Most Economical Method for Doing its Particular Job. Buy Your Truck on That Basis—And it Will be a Good Investment

RISING costs and the shrinking value of the dollar to a large extent can be offset by *intelligent buying*.

A steadily increasing number of business men are *getting* the facts and then *buying* their trucks on the basis of the facts.

There are many good trucks on the market. But value in a truck, very much like character in a man, isn't always completely revealed by what the eye can see.

Back of every Duplex Truck are *Fundamental Principles*—of design and of construction—factors that result in the *remarkable degree of service value* in Duplex trucks for the man who buys.

There is Nothing Somebody Else Can Do to Save a Man From Paying the Price of His Own Limitation or His Own Carelessness

Look in the used car columns of your local paper. Note the number and makes of trucks offered for sale and *think about* all the reasons.

In one day in three cities 324 different used trucks were listed for sale—and not one Duplex among them.

Are these trucks for sale because they were not bought right?

There is something significant here when you stop to analyze it.

Why is this tendency to standardize on Duplex so noticeable of late years?

The answer is very likely that trucks are *more and more being bought on the business basis of service delivered and what the service costs over a period of years*.

This is a Time for Intelligent Buying

A truck is just as much a piece of business equipment as any other piece of machinery. Its value is in *what it does and how cheaply it does it*.

Transportation is a necessary part of every business.

A truck gives a business man transportation facilities—at a high or a low price. *It depends on the fitness of the truck for its job.*

Now take a man who buys a truck for his business without getting all the facts first. Later he discovers that his truck is not as economical as it should be. He sells it at a sacrifice and gets another—and so on. Finally he buys the truck he should have selected the first time.

What is the result?

He pays too much for his transportation. His costs for trucking are not right.

The Duplex Users of Today Are Probably the Most Intelligent Buyers and Users of Trucks in America

Think of this—ninety per cent of the Duplex dealers have been distributing Duplex Trucks ever since this company was first organized.

What does this signify? It shows for one thing that their customers have found the Duplex Truck to be a successful truck for them.

The great significance of all this is that *Duplex users stay Duplex users*. Many of them had tried out five or six different makes of trucks before they got their first Duplex.

The whole history of this business shows that when a man buys his first Duplex it is only a little while until *he standardizes on Duplex*.

Get the Facts for Yourself

We have hundreds of letters from users in our offices that show some very remarkable facts. They are not edited. The letters stand just as they were written.

If you are a truck user and want to read these letters write us and we will send them to you for your private perusal. For ethical reasons we do not care to publish them.

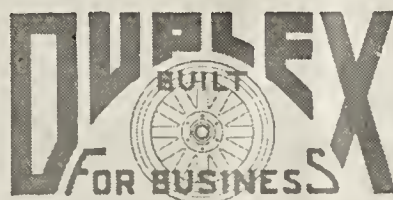
What Do You Think?

Duplex 4 - Wheel Drive

Many companies in the heavy duty fields say that the Duplex 4-Wheel Drive is the only successful truck they ever owned.

If your kind of work has proved too much for the ordinary truck—you will find that the Duplex dealer near you can give you some really interesting facts.

Many owners still seem to be using the *wrong kind* of trucks. Get the Duplex facts.



The Duplex Limited

Thoughtful men have entire confidence in the Duplex Limited—feeling that this *high speed* Duplex is a safe investment because of the fact that it is a Duplex.

Medium capacity—Pneumatic Tired—Two Wheel Drive—Full Electrical Equipment—here is a Speed Truck that *lasts*. Strong, rugged, mechanically and constructively *right*—it handles as easily and smoothly as a passenger car—and at a minimum of upkeep.

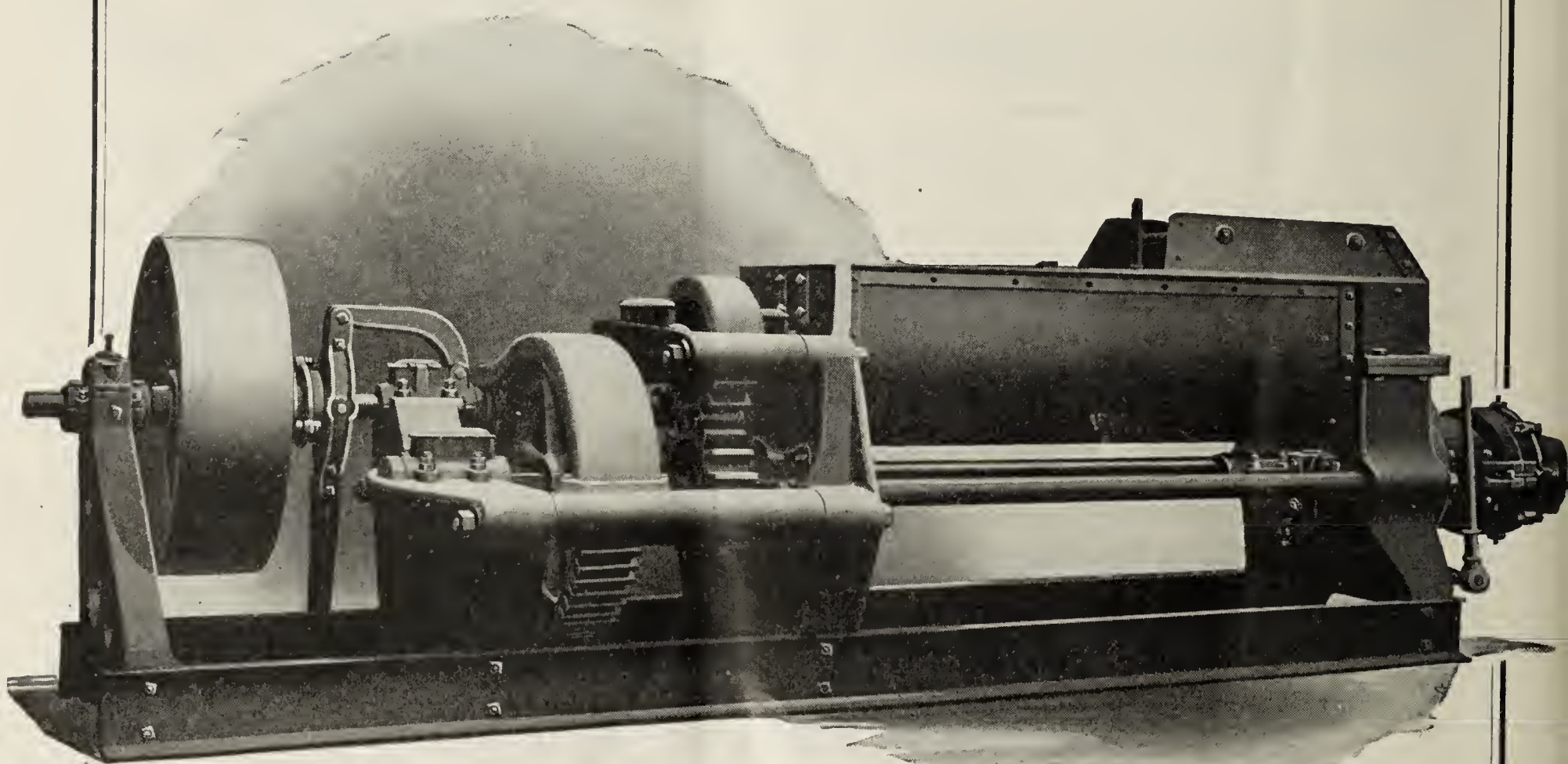
Duplex Truck Company

Lansing • Michigan

One of the Oldest and Most Successful Truck Companies in America

CAN SEVERAL HUNDRED BRICKMAKERS BE WRONG?

Several hundred Brickmakers have selected, and are now operating Freese Union Machines. Most of these have made their selection after investigating the results being obtained on other plants. The selection of this machine by such a large percentage of experienced Brickmakers should mean much to a prospective purchaser of clayworking machinery.



Freese Union Machine

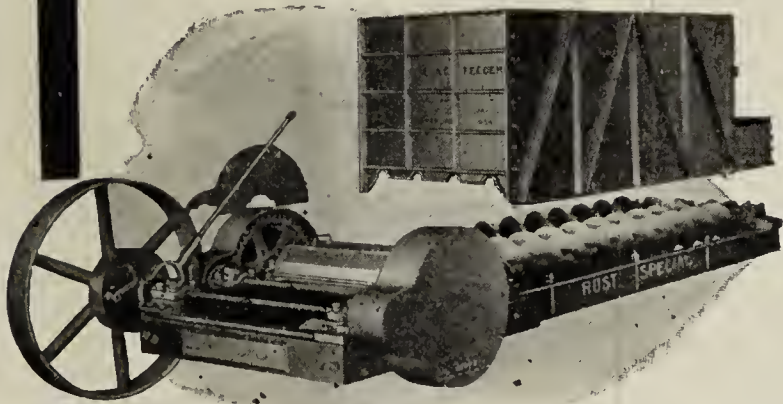
E. M. Freese and Company
Dependable Machinery of Proven Efficiency
Galion, Ohio

TWO ASSURANCES *of* LOWER COSTS *and* MORE PRODUCTION



Keystone Portable Kiln Grate

AN Ideal grate for kiln use. It is made durable throughout, offers flat surface for fuel and has no intricate parts. It is easily taken apart and assembled. It will improve your burning, keep the burning uniform and save fuel.



Extra Heavy "Rust Special" Feeder Mixture

This Clay feeder-mixer speeds production by helping you to full capacity out of your dry pan and pug mill auger, by insuring regular delivery to your off-bearers, speeding them up to greater efficiency and it will save the labor of one to two men. It will pay for itself the first year in labor saving.



The above picture is a partial view of the kiln in the plant of the Crown Potteries Co. at Evansville, Ind. The grates have been in service and are ready for another kiln. Note how easily they are handled, the same steel handles used in wheeling are also levers for operating them.

MARION MACHINE, FOUNDRY and SUPPLY COMPANY

Box 395

MARION, IND.

Gentlemen: Please send me particulars on Marion quality equipment checked below:

- ☐ Soot Blowers.
- ☐ For Water Tube Boilers.
- ☐ For Fire Tube Boilers.
- ☐ Shear Klean Grates.
- ☐ Marion Scottdale Grates.
- ☐ Portable Kiln Grates.
- ☐ Alexander Patent Water Gauge.
- ☐ Marion Power Plant Equipment.

Signed

Firm Name

Address

Marion Machine, Foundry & Supply Co.

Box 395

MARION, INDIANA

Classified Advertisements

Classified advertisements are inserted at the following rates:
First insertion, eight cents per word, the captions "For Sale," "Wanted," and address, to be counted as a part of the ad. Additional insertions, six cents per word per insertion. No advertisement inserted for less than \$1.00 per insertion. Cash must accompany all orders to insure insertion.

WANTED—HELP

SUPERINTENDENT WANTED—An Iowa manufacturer, operating twelve kilns, is desirous of securing the services of a high grade man to take full charge of factory operations. Must have a good record and be able to prove his ability to handle mechanical dryer and burning problems and to handle men. Good salary and production bonus to the man who can qualify. Address: 6-2BTM, care of "Brick and Clay Record." 6-2TF

WANTED—A man thoroughly acquainted with the requirements of brick and clay plants to sell them their machinery in Virginia, North and South Carolina. Applicants should state in detail their experience, also salary expected. A high class connection is offered to the right man. General Utilities Co., Box 361, Norfolk, Va. 6-2-2

WANTED—Superintendent for brick plant in the South that manufactures dry press and stiff mud brick. Address: 5-South, care of "Brick and Clay Record." 5-5

WANTED—First-class carpenter who can read blue prints and make patterns and molds. Give wages expected in first letter. Diamond Fire Brick Co., Canon City, Colo. 6-2-2

WANTED—Assistant superintendent to take charge of workroom in first class stone-ware plant, manufacturing four thousand gallons daily. State experience and salary expected. Medalta Stoneware Limited, Medicine Hat, Alberta, Canada. 6-3-1P

WANTED—Capable man for assistant superintendent of soft mud brick plant, 100,000 per day capacity. Located in the East. Apply by giving reference and experience to 6-3 Prospect, care of "Brick and Clay Record." 6-3-2

WANTED—Superintendent for modern face brick plant, 40,000 daily capacity, located in Central Illinois. Excellent opening for man who can produce results. Address: 6-HY, care of "Brick and Clay Record." 6TF

WANTED—Superintendent for medium sized plant, manufacturing brick and tile. Chance to become interested. State age, experience and salary. Address: 6-3A, care of "Brick and Clay Record." 6-31P

WANTED—Sewer pipe kiln setter. Good wages year around to right party. Small town; good living conditions. Address: 6-RP, care of "Brick and Clay Record." 6-3P

WE WISH TO employ an educated brick burner. Address: 6-3CMS, care of "Brick and Clay Record." 6-3-4

WANTED—Position by one who knows the clay game from bank to building; face, paving, common, hollow ware or drain tile. As general manager and superintendent thirty years' experience. J. E. M., 118 No. Mechanic St., Cumberland, Md. 6-3-1

WANTED—POSITIONS

WANTED—Position as general superintendent or production manager of fire brick plant. Understand business from mining of clays up. Necessary reference. Address: 5-C, care of "Brick and Clay Record." 5TF

WANTED—Position as manager or superintendent of brick plant. Thoroughly experienced in every detail. Can accept place immediately. Address: 6-2DT, care of "Brick and Clay Record." 6-2-2P

WANTED—Position as assistant manager by graduate ceramic engineer with executive ability. Seven years' experience as superintendent and plant manager. Address: 6-2Engineer, care of "Brick and Clay Record." 6-2-3XP

WANTED—Position as superintendent of dry press or stiff-mud yard. 15 years with present employer. Peculiar conditions force change. Good business education. Address: 6-3BAN, care of "Brick and Clay Record." 6-31XP

WANTED—Position as superintendent. I am going to make a change. I have served ten years for the Star Brick & Tile Company as manager and superintendent of Bay View, Wash. C. B. Mayhugh, Mt. Vernon, Wash. 6-3-2

SUPERINTENDENT—At present engaged wishes to make change. Thoroughly experienced in the manufacture of clay products. Only position in South or Southwest considered. Address: 6-3 Change, care of "Brick and Clay Record." 6-3-1

WANTED—EQUIPMENT

WANTED

Dinky Locomotives

Will purchase several seven to fourteen-ton engines in any condition that will justify our rebuilding and repairing same. Vulcan and Davenport preferred.

The Pittsburg Boiler & Machine Co., Pittsburg, Kansas.

5-1P

Wanted at Once LOCOMOTIVES

2-Std. Ga. Saddle Tanks
15 to 25 tons. 150 lb. steam
1-5/8 yd. Thew, Marion or
Bucyrus Traction

STEAM SHOVEL

"Brick and Clay Record"

Box No. 1-3-LoCo, care of

1-3-4

WANTED—A rotary cutter for cutting face brick. Must not cut more than 16 brick at one time and be in first-class operating condition. 2% or 2 1/2% platens preferred. State make, length of time in use, price and any other pertinent information. Milton Brick Co., Milton, Pa. 6-2TF

WANTED TO BUY—Double deck dryer cars in good condition. State price and location of same. 24 inch gauge. Coraopolis Brick & Tile Co., Main and Wabash St., Pittsburgh, Pa. 6-2-3

WANTED—One Bensing automatic cutter for cutting hollow tile. Must be in first-class shape. Send particulars and price in first letter. Fraser Brick Co., 810 Sumpter Bldg., Dallas, Texas. 6-2-2

WANTED

3 Engine Generator Sets
250 K. W. or larger,
250 Volts, D. C.

In quoting give manufacturer's name, shop number, age, time used, present condition, rock bottom cash price, and floor space necessary.

Madison Coal Corporation,
Purchasing Department,
904 S. Michigan Ave.,
Chicago, Ill.

6-3-3

WANTED

15 to 20—36 in. gauge 2-yard Koppel V-shape two-way side dump cars. Must be first class. Box 6-2TW, care of "Brick and Clay Record." 6-2-4

WANTED—One second-hand horse power sand mold brick machine in good working order. F. A. Johnson, Nemadji, Minn. 6-2P

WANTED—40-ton Porter locomotive, 36 in. gauge. Must be in first-class condition. Advise Box G, Lock Haven, Pa. State price and other pertinent detail. 6-1

WANTED—Small electric shovel, first-class condition. State price, style and all particulars in first letter. Sioux City Brick & Tile Co., Sioux City, Iowa. 6-3-2

WANTED—No. 0 Thew steam shovel. Must be in first-class condition. Nicholas Construction Co., Kansas City, Mo. 6-3-2

WANTED—A belt carrier 14 or 16 inches wide, 300 feet long. Milledgeville Brick Works Co., Milledgeville, Georgia. 6-3TF

WANTED—Second-hand hill planer in good condition. Bolger & Medley, Box 233, Owensboro, Ky. 6-3-1

MISCELLANEOUS

Information Wanted

Our company contemplates changing our method of burning our brick and we would welcome complete information and propositions from manufacturers of all types of kilns, and different brick burning systems. Address: 6-3 Kilns, care of "Brick and Clay Record." 6-3-4

FOR SALE—BRICK PLANT

FOR SALE—Easy terms, brick plant—40,000 capacity. Cannot supply demand. No competition. Write Henry Schafer, White Deer, Texas. 6-2-4P

Classified Advertisements

FOR SALE

To settle estate of principal stockholder.
SHALE BRICK PLANT
 in regular operation (making common brick)
 and in good order.

THREE KILNS 10-TRACK STEAM DRYER

100 H. P. Engine—175 H. P. Boiler.
 Plant is located on farm of 130 acres; York
 County, Penna. (near Emigsville). P. R. R.
 siding at kilns. Fine quality of red shale.
 Exceptional business opportunity. For fur-
 ther particulars inquire of main office, 222
 Market Street, Harrisburg, Pa.

MANCHESTER SHALE BRICK CO.
 6-2-2P

FOR SALE—On account of ill health, 1 brick
 plant, 18,000 to 20,000 capacity now run-
 ning. Good location, shipping facilities.
 Home trade uses two-thirds of output. This
 is a bargain. Act quick. Inquire: 6-2GL,
 care of "Brick and Clay Record." 6-2-4

FOR SALE—Fire brick plant located in
 Pennsylvania. Kiln capacity 700,000. Clay
 and coal on property. Workmen's houses,
 school and store. Fully equipped and oper-
 ating. Orders booked ahead. Address:
 6-TR, care of "Brick and Clay Record." 6-3

FOR SALE—Pennsylvania brick plant fully
 equipped and operating. Suitable for
 manufacture of hollow tile or building brick.
 Buff and red materials; also coal on prop-
 erty. Workmen's houses. Kiln capacity
 800,000 building brick. Address: 6-RM, care
 of "Brick and Clay Record." 6-3

FOR SALE—On account death, machinery
 for complete sand lime brick plant that
 cost \$40,000 for quick sale at \$8,500. Big
 demand for brick and exclusive territory.
 No other brick plant. For particulars write
 F. Mulligan, 1129 First Ave. W., Spokane,
 Wash. 6-3-1P

FOR SALE—USED MACHINERY

FOR SALE—Brick machinery, 65 h. p. com-
 pound engine, 5 h. p. upright boiler com-
 plete, lime grinder, elevating machinery,
 dryer, sand conveyor. Manistee Brick Co.,
 Manistee, Mich. 4-TFX

FOR SALE—One four-mold Berg brick
 press, practically new and in excellent
 condition. One Bensing Automatic clay cut-
 ter, complete with one extra cutting belt.
 Cuts 2 3/4 and 4 1/4 inches. One American
 No. 8 down cut, board delivery, cutting
 table. Cannon & Co., Box 281, Sacramento,
 Calif. 2-TF

FOR SALE—15,000 wood brick pallets, 10-
 inch by 34-inch Dunkirk Brick & Tile Co.,
 Dunkirk, N. Y. 6-TF

FOR SALE

Brick factory in central east-
 ern Ohio, located on four lines
 of railroad. Modern, up-to-
 date machinery equipment
 and buildings in best of con-
 dition. 17 kilns, 50 years sup-
 ply of shale. At present man-
 ufacturing face, common and
 paving brick, and will make
 hollow ware of any kind.
 Coal mine and equipment that
 can produce 100 tons or more
 per day goes with plant. This
 is a successful operating fac-
 tory, long established, well
 organized and in the best of
 running condition. Address:
 6-3 Face Brick, care of "Brick
 and Clay Record." 6-3-1

PROMPT SHIPMENT

1—14x36 St. Louis Corliss engine.
 1—Belt driven S. D. hoist.
 1—14-ton 36-inch gauge Porter locomotive.
 1—9-ton 36-inch gauge Vulcan.
 6—12 cubic feet steel dump cars, 18-inch
 gauge.
 6—1 1/2-yd. steel dump cars, 36-inch gauge.
 12—4-yd. Western dump cars, 36-inch gauge.
 1—80 H. P. return tubular boiler.
 1—150 H. P. return tubular boiler.
 1—280-ft. Rand steam driven air com-
 pressor.
 1—20-ft. direct heat dryer.
 1—3/4-yd. Thew traction shovel.

RAILS

25 Tons NEW 12-lb. Rails.
 60 Tons NEW 16-lb. Rails.
 35 Tons NEW 20-lb. Rails.
 140 Tons RELAY 40-lb. Rails.
 190 Tons RELAY 60-lb. Rails.

Mid-Continent Equipment and Machinery Co.
 Security Building,
 St. Louis, Co. 6-3TF

FOR SALE—15,000 good brick pallets, 10 in.
 by 34 in. Dunkirk Brick & Tile Co.,
 Dunkirk, N. Y. 6TF

FOR SALE—One standard eight-foot wet
 pan with mechanical unloader arranged
 for belt drive. American Clay Machinery
 Company manufacture. For further partic-
 ulars address The Carborundum Co., Niagara
 Falls, N. Y. 6-2-2

FOR SALE—One brick cutter manufactured
 by American Clay Machinery Co., one
 brick cutter manufactured by The Bonnot
 Co., Canton, Ohio, one repress cutter manu-
 factured by The Bonnot Company, Canton,
 Ohio, one repress cutter manufactured by
 American Clay Machinery Co. Address:
 6-2WA, care of "Brick and Clay Record." 6-2-2

FOR SALE

1—90 H. P. Thomas Elevator Company
 electric hoist, two drums, two speed
 planetary transmission fully equipped
 with controller, starting switch and 90
 H. P. Wagner Motor.

500 ft.—1 1/2-inch track cable.

1,500 ft.—3/4-inch hoisting cable.

1—1 1/2-yd. Badley Bucket.

1—1 1/2-yd. Doll Bucket.

Used six months. Original cost com-
 plete \$9,500, sell \$5,500 F. O. B. Cars,
 Zumbrota, Minn.

1—American Clay Machinery Company,
 rotary dryer—48-inch by 60 ft. long—
 complete with all running gear—fire box
 front—all castings—grates—shafts—
 pulleys and blower fan. Used two years,
 original cost \$9,400, good as new, \$5,500
 F. O. B. cars, Zumbrota, Minn.

2—Newaygo shaker screens, 6x8—1/8-
 inch mesh, complete with all drive
 mechanism, used two years. Original
 cost \$1,200, sell \$250 each.

2—Nine foot Frost heavy duty dry pans
 complete, used three years, good condi-
 tion. Original cost \$2,800 each, sell
 \$1,500 each, F. O. B. cars Zumbrota.

The Reliance Brick Co.,
 Builders Exchange Building,
 Minneapolis, Minnesota.

For Sale

2—225 H. P. B. & W. Water Tube
 Boilers.

2—200 H. P. Scotch Marine Boilers.

2—72x18 H. R. T. 150 H. P. Boilers.

1—600 H. P. B & W. Water Tube
 Boiler with Chain Grates.

2—No. 3 Keystone Excavators.

1—0 Thew full circle shovels.

Lot Boiler Stacks.

Lot Hoisting Engines, smaller boil-
 ers, pumps, compressors, pipe,
 etc.

E. E. McCartney
 769 Wilson Ave.
 Youngstown, Ohio

6-3-1

25 tons of 16 lb. rail.
 150 tons of 35 lb. rail.

Also large quantity of spikes, frogs,
 switches and cars suitable for clay mine
 and brick yard.

M. K. Frank, - - Frick Bldg.
 Pittsburgh, Pa.

FOR SALE—One pug mill, 14 ft. cham-
 ber heavy duty type with cut steel
 gears, cast steel knives and hubs in
 good condition. Run about six months.
 One pug mill, 12 ft. chamber standard
 double geared type. This machine has
 never been used. International Clay
 Machinery Co., Dayton, Ohio. 6TF

10,000 Tons RAILS EQUIPMENT

8 lbs. up
 to
 100 lbs.
 Immediate
 Shipment

5/8 yd. Thew O. Traction Steam Shovel
 6—14 ton 36 in. gage Saddle Tanks
 3—18 ton. 36 in. gage Saddle Tanks
 2—21 ton 36 in. gage Saddle Tanks
 2—3 ton 4' 8 1/2" gage Plymouth Gasoline
 2—40 ton 4' 8 1/2" gage Saddle Tanks

ZELNICKER IN ST. LOUIS

Get our new big Bulletin 285 for unusual
 bargains in Railway, Power Plant and
 Contractors' Equipment, Dump Cars,
 Track Accessories, Tanks, Pipe, etc.

What Have You For Sale?



Fate

CLAY-WORKING MACHINERY

Honor built for the ages

WE ARE PROUD OF THE REPLIES WE RECEIVED

In answer to our letters to purchasers of Fate Clay Working Machinery. The letters asked point blank, regardless of how much it would hurt, for a true statement of what each purchaser thought of our product. And the replies make us more than ever certain that our product justly deserves the strong guarantee we put upon every machine sold.

Fate products have been leaders for over a quarter of a century—Leaders by virtue of quality and improvements in keeping with progress.

30,000 to 50,000
Standard Size Brick

EVERY TEN HOURS WITH A "SPECIAL IMPERIAL"

(The Combined Brick and Tile Machine)

Specially designed for making BRICK, DRAIN TILE and BUILDING TILE, by the use of augers designed for the work.

Machine has most thorough pugging device known—double shafts, bearing knives that revolve toward each other and interwork, making a forced feed to the augers.

All bearings on the outside of pugging tub and are entirely free from contact with action of clay.

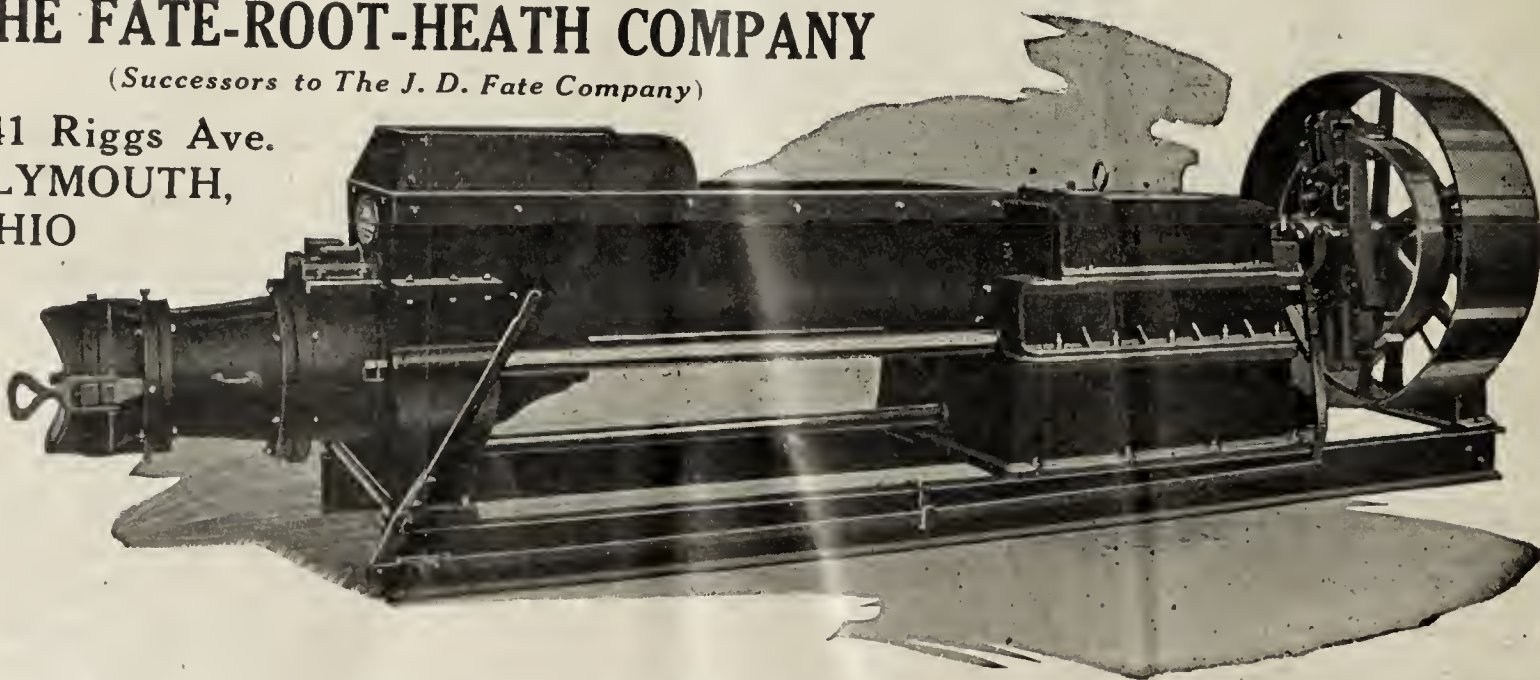
The "Special Imperial" is most strongly built, and includes all the latest improvements to increase efficiency.

Send for our catalog of clay working machinery.

THE FATE-ROOT-HEATH COMPANY

(Successors to The J. D. Fate Company)

241 Riggs Ave.
PLYMOUTH,
OHIO



PLYMOUTH

Gasoline Locomotives

PIONEERS
IN
DEVELOPMENT

PACEMAKERS
IN
PRODUCTION

COLOR BEARERS
IN
SERVICE

Superlative In Type and Service

After a continued use of the PLYMOUTH GASOLINE LOCOMOTIVE, the Claycraft Brick Company of Columbus, Ohio, wrote:

"We have convinced ourselves that the gasoline locomotive is by far the best machine for our use and that the Plymouth can not be beaten by any other make."

The Claycraft people also wrote that by the use of the Plymouth the cost of manufacture and storage of brick had been reduced sufficiently to pay for the Plymouth and cars in a single year.

Why not make the Plymouth the labor saving and cost saving link between your pit and mill? Write for our special Brick and Clay Bulletin.

THE FATE-ROOT-HEATH COMPANY

241 Riggs Avenue

PLYMOUTH, OHIO



Do you know why "The Nations' Freight Car" has "The Famous Drive that Came from a Famous Gun?" It is one of many features of advanced engineering that have a direct bearing upon your own haulage problems. The reasons are interestingly explained in a book that will come by return mail at your request.



Economy versus Cheapness



Diamond T for fifteen consecutive years has maintained a definite transportation standard. The standard has been, and is, not low price, but *lowest final cost*.

Constant adherence to that ideal explains the lasting satisfaction of Diamond T ownership.

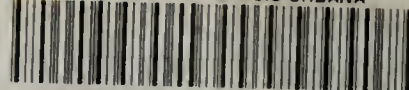
DIAMOND T MOTOR CAR CO.

4525 West 26th Street



CHICAGO, ILL.

UNIVERSITY OF ILLINOIS-URBANA



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B